NEW WORLDS
SCIENCE FICTION

No. 24 1/6

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NEW WORLDS

PROFILES

James White

Born in Belfast twenty-six years ago his early childhood was spent in Canada where his parents immigrated soon after he could walk. He was returned to Belfast at the age of seven where it is reported that diplomatic relations between Northern Ireland and Canada are still strained.

Until 1941 he had lived a completely useless life (apart from learning to live), but in that year he read his first modern science fiction story—*Galactic Patrol* by E. E. Smith, a pre-war classic—and unfortunately met another Irish fan, Walter Willis—a post-war classic. The two ignited like liquid oxygen and hydrogen, exploding Jimmy into the amateur world of science fiction.

It was not until 1952, however, that he wrote his first story (' Assisted Passage ") and submitted it under pressure to *New Worlds* where it was promptly accepted. Four more stories have been accepted by this magazine, and one has been published in the American *Astounding*. A close friend of artist Gerard Quinn the two have collaborated on the current cover scene which is taken from "Idealist."

By trade a sartorial consultant, he takes about two months to write a story to his satisfaction.

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NEW WORLDS SCIENCE FICTION

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CONTENTS

Novelette :		
THE CONSPIRATORS	*by James White* ...	4
Short Stories :		
IDEALIST	*by Lester del Rey* ...	28
ALL GLORY FORGOTTEN	*by Kenneth Bulmer* ...	40
ESCAPE ROUTE	*by John Christopher* ...	61
JERRY BUILT	*by Dan Morgan* ...	70
FIRE	*by Burgess Browne* ...	119
Serial :		
TAKEOFF	*by Cyril M. Kornbluth* ...	84
Conclusion		
Article :		
RADIAC	*by John Newman* ...	55
Features :		
EDITORIAL	*by John Carnell* ...	2
THE LITERARY LINE-UP	... ...	60
FILM REVIEW	*by John Carnell* ...	124
BOOK REVIEWS	*by Leslie Flood*	126

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ONE SHILLING AND SIXPENCE

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Investigation . . .

Not many years ago the most frequent topic of conversation between regular readers of science fiction was the relatively small number of publications available and the fact that considerable research had to be done to discover book titles, often unidentifiable by name or jacket description. Before 1940 and Import restrictions upon American publications there were few magazines and books were conspicuous by their absence. After 1946 when the upsurge of American publishing pointed the way for British possibilities, those same readers found they could not obtain more than a fraction of the total output.

While the demand was great and the supply limited there was a lot of wishful thinking and the oft-repeated phrase " One of these days we shall be able to get all the science fiction we want," was an idle thought few expected to see fulfilled. But fulfilled it has been and " these days " are upon us, bringing with them complex situations. Not the least of which is the discovery that an apparent saturation point has been reached and the medium has started a downward trend in general appeal.

Although Nova Publications can claim extensive knowledge of the fantasy publishing field, the recent increase in the number of publications specialising in this form of literature made it essential that we conducted another market research before changing to a monthly schedule. The completed picture has been built up by our representatives discussing sales with wholesalers and retailers (not only in this country but also abroad), by correspondence and conversations with readers, managers and owners of shops, trade publishing houses, street vendors, market stall-holders, newspapermen and even schoolteachers (the impact has been far greater on the younger generation than ever before).

The result of our three months investigation shows that science fiction *in general* has passed its peak of interest for the *casual* readers who have been making up the vast bulk of new sales.

In America there is already a sharp decline in the number of magazines being published, no less than six having ' suspended ' publication and a number of others reducing their pages and publishing frequency. These have been amongst the more recent additions to the field and none of the well-established publications appear to be effected. Newsstand dealers, however, report a big falling off in the sales of books and magazines, offset slightly by increased sales of pocketbooks with mass-market appeal and juvenile publications of all kinds.

The Spring lists of American book publishers reveal little new material forthcoming on the scale of last year—none of the leading writers appear to have anything other than book editions of stories that

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have already been serialised in magazine form, although there is considerable expansion in the juvenile book market.

In Hollywood, despite the large number of science fiction stories that have been optioned for possible scripting, few films are actually being made. One that has been completed and is now appearing in this country is Curt Siodmak's " Riders To The Stars."

Meanwhile, in Britain, science fiction is apparently hitting the same decline. Wholesalers and retailers here say exactly the same as their contemporaries across the Atlantic—there is no *apparent* reason for this falling off in interest. (For the record, Britain's black spot is in central Yorkshire and Eastern Lancashire).

Apart from economic factors there are other possible reasons for the decline—supply has now passed the demand not only in availability of magazines, both British and reprint American, but in the number of *extra* sources occasionally featuring science fiction. Newspapers and general periodicals now have a small proportion of material. Films, radio and television contribute a quota. Assuming that 20% of Mr. Everyman's mental relaxation is taken up with science fiction *at the very most*, he is now able to obtain that percentage over a much wider field. *It is no longer necessary for him to buy everything in sight.* In fact, he can obtain almost sufficient from any public library without having to recourse to magazines.

Another possible reason, and one that applies just as aptly on both sides of the Atlantic, is the effect on general readership of the vast amount of poorly written rubbish that has fastened like an evil growth on the name of science fiction. Shoddy writing coupled with preposterous plots entirely lacking in any form of scientific reasoning have probably driven more potential readers of discerning intelligence away from science fiction in one year than have been lost over the entire twenty-eight years of magazine publishing in this medium.

Healthy competition in the science fiction field is more than welcome, even though some of our contemporaries make extravagant and unlikely claims as to circulation, distribution, wordage and rates of payment, but it cannot stand the deluge of poor quality material now appearing under the misnomer of " science " fiction.

The present decline however, is not the first one the field in general has had to face. A similar upsurge of interest was prevalent in America during 1939, but on a smaller scale, curtailed eventually by the increasing tempo of the war. Many magazines ceased publication—the best survived. Let us call the present stage a levelling-off process that will undoubtedly leave the better quality magazines a clearer field to develop science fiction as a good class literature.

The contribution *New Worlds* is going to make to that class will become more evident next month, when more of our future programme is announced, a programme which will set a new high level for science fiction magazine publishing in this country.

John Carnell.

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The Change was very gradual but it eventually gave the experimental animals on the Starship sufficient intelligence to plan escape when a suitable planet was discovered. What they needed, however, was leadership combined with logic and an understanding of the ways of the Humans.

THE CONSPIRATORS

By James White

Illustrated by HUTCHINGS

The restaurant was select, and very, very expensive. Expensive because it was the only place in the city which offered food cooked and served by hand, and select because so few people could afford to dine there. Its patrons displayed at all times the quiet refinement that is usual with the extremely—though unobtrusively—rich. And never, in the thirty years since its establishment, had a person been thrown out.

But patrons did not bring their pets with them, and allow them to feed from the table, twice.

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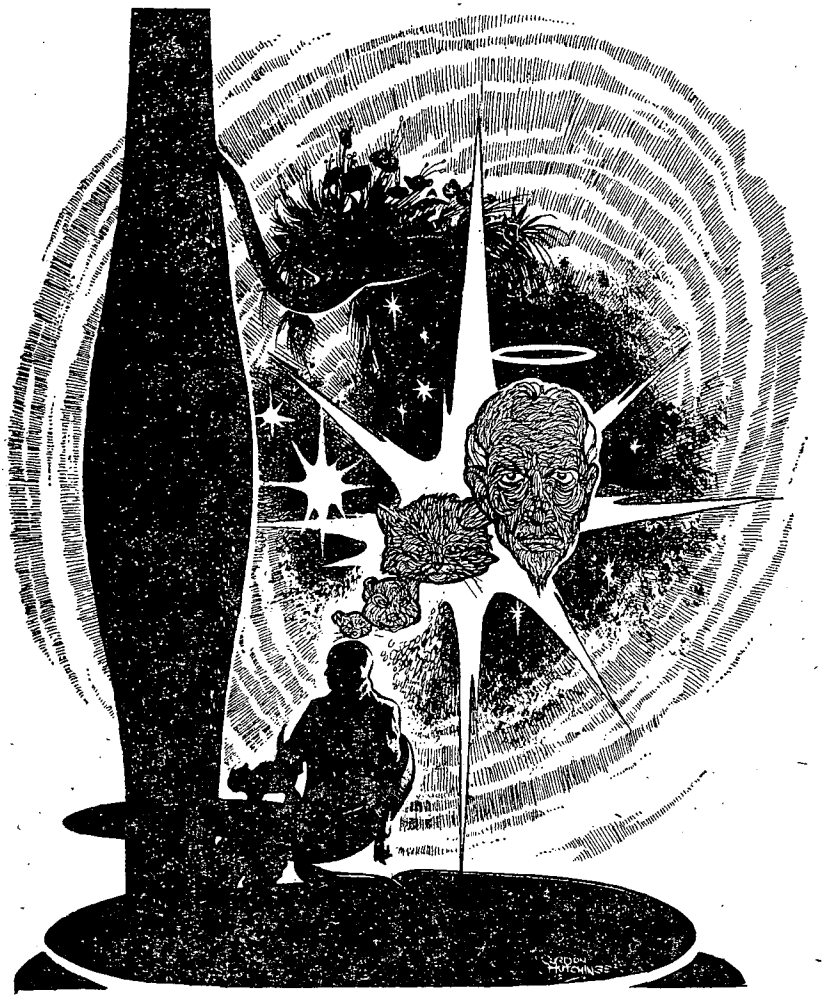

Uncaring of the embarrassment he was causing to the other diners in the room, he sprawled on the nearly priceless antique that was his chair, chin on chest, staring wide-eyed into nothingness. Reflected in his eyes was loneliness, frustration, and a pain so great that one wondered how it was possible for him to live with that awful burden. A black sash trimmed with silver identified him as a spaceman of Executive rank, and the collar of his supposedly wrinkle-proof lounging tunic bore a tiny golden star—but nobody noticed that. An old black

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cat crouched on the snowy linen beside his plate. He stroked it absent-mindedly.

Once he said thickly, "For you, only the best." He had been drinking a lot.

The cat disregarded him. It continued to watch the adjoining table where a young couple were eating toast with little fish on top of it. Suddenly the cat put its head down, and began to creep among the dishes . . .

Something had gone wrong. It was outside his range, but Felix caught a sharp, incoherent sensation of mingled shock, loss, and panic in the instant that it happened. He floated, outwardly unconcerned, in the middle of the corridor which led to the Biology Section, and waited for the details to come down the line.

A few minutes later the relay who was clinging to the wall-net at the end of the corridor began sending him the facts. The news was very bad.

It seemed that the Small One whose job it was to damage certain tiny but important circuits in the Communications Room for purposes connected with the Escape had had an accident. Singer had seen it happen—Felix had guessed it was Singer. Even on the fourth leg of a relay the thought pattern was unmistakable; all emotion and not enough fact—the Small One had jumped for cover when he heard the crew-man coming, misjudged, and landed on a live section. It was only a couple of hundred volts, but that was an awful lot to a Small One—he was very thoroughly dead. What was left of him was floating in plain sight, and Singer was rapidly killing himself with his frenzied attempts at holding the crew-man's attention, because if the man noticed the body, and the disconnected wiring beside it, he might be suspicious. Singer wanted somebody to do something, *quick*. The message ended with a sense-free garble of fear, urgency, and panic that was almost hysteria.

To another Small One concealed in a ventilator at the other end of the corridor, Felix relayed the message exactly as he'd received it. But he had an addition to make. He sent, "Include this. Felix to Whitey. I think I can handle this. Send someone to replace me—I'm on relay duty half way along corridor Five-C—I'm going to Communications." He wriggled furiously until he made contact with the wall-net, then launched himself down the corridor towards the intersection leading to the scene of the accident.

Usually Felix left important decisions to the Small Ones. They had the brains. He didn't know why he'd taken the initiative this time. Whitey, he thought, might not be pleased.

He was able to enter the Communications Room and get to the Small One's body without the crew-man seeing him. Singer, though impractical in many ways, could create quite a diversion when he wanted to. Singer was fluttering around the man's head in tight

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circles, and the man was making ineffectual grabs at him and wondering loudly what had got into the blasted thing. He had eyes and thoughts, Felix knew, only for Singer. Good.

The fur on the body was badly scorched, and Felix's nose told him that parts of the underlying flesh were cooked, too. Suddenly a raw, animal hunger stirred inside him and began to grow, but he fought it down. Since the Change had begun, satisfaction of that nature was not for him. Felix batted the tiny corpse towards the opposite corner of the room, well away from those all-important circuits, then launched himself after it.

When he'd retrieved it and had it settled between his paws, he told Singer, "All right, Bird-brain. You can relax. Better leave now—you're supposed to be afraid of me."

A bright yellow streak of motion, Singer flew out the door and down the corridor. Before he was out of range he returned, "I *am* afraid of you . . . You . . . *savage* !"

Seconds later the crew-man caught sight of Felix. Pleased, he said, "Felix ! Where've you been hiding yourself?" He grabbed Felix by the neck with one hand and pulled himself into a seat with the other. Clipping in and settling Felix on his lap, he went on, "So you caught a mouse, eh, Felix? But what have you been doing with it? Having a barbecue or something?" He stopped talking then, but his mind was busy. He began to stroke the back of Felix's neck.

Felix didn't feel at all like purring, but he knew that it was expected of him. After a while he began to enjoy it in spite of himself, but that didn't stop him from reading the crew-man's thoughts.

A sharp, clear thought—characteristic of the Small Ones—brought him abruptly to full attention. Felix couldn't see the other, but he knew that the Small One was within thirty feet of him—that was the maximum effective range of their telepathy—probably in the emergency spacesuit hanging outside the door that Felix had noticed coming in. The thought said, "Felix, your replacement is in position. Whitey wants you to report."

"Right. Relay this. Felix to Whitey . . ."

For a moment Felix felt awed as he thought of Whitey in Bio-Lab Three—more than half the length of the great Ship away—surrounded by Big Ones, and the Small Ones who weren't on relay duties, and all of them working on the Escape. And of the other telepathic relays that linked Lab Three with places like Seed Storage, Central Control, and Engines . . . Catching an impatient thought from the Small One out in the corridor, Felix hastily brought his mind back to the report.

". . . This Human is not suspicious," he sent. "The Small One was so badly scorched that the Lab markings have been obliterated, and he thinks it is a Wild One from Seed Storage section. He thinks

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that I have knocked it against some live wires while playing with it, and that I'm very lucky I didn't meet the same fate myself—there's that old ' nine lives ' concept again—but he is wondering why I didn't eat the thing . . ."

Felix knew that a feeling of shocked revulsion was left in the wake of his message as it went down the line. Felix did not share the deep sorrow that the accident had caused among the more intelligent and highly-sensitive Small Ones. He took a perverse pleasure in shocking them sometimes. Without meaning to they made him feel inferior, envious. Felix wasn't proud of these feelings, but there wasn't much he could do about them. The Change was very slow in him.

". . . He is not interested in checking any of the room's equipment," Felix continued, " but is impatient to rejoin the bulk of the crew who are packed into Astronomy section all trying to get a closer view of the new planet. He is feeling rebellious at having to stand watch here at a time like this, and is wondering sarcastically if the Captain is expecting the natives—if any—of the planet below to just ring him up.

" At the back of his mind he is feeling angry because the scoutship is unable to make a landing. But neither he nor anyone else suspect that we were responsible for damaging its Planetary Drive coils. The fact that the replacements are also missing they blame on a clerical error in storing or checking the equipment back home. They don't know we've hidden them."

The Human stopped his stroking of Felix and pushed him gently off his lap. Felix ended, " He intends trying to sleep now. Nobody will be coming here, he knows, and he's a light sleeper anyway." He waited a little anxiously for Whitey's reply.

" You've done well, Felix."

Even though coloured by the personalities of nearly a score of the relay entities, the thought was still warm, congratulatory. Then it changed subtly. " Come to the Lab at once, Felix. There is a transport problem."

" Right." Felix answered. " But before I go; the Human is asleep now. If you send somebody to arrange those disconnected wires so's they'll pass visual inspection, nothing can go wrong here."

He intercepted the reply when he was already half way to the Lab. He'd been hurrying. It was:

" Thanks, Felix. It is already being done."

When he reached the Lab two of the Big Ones had the ventilator grill moved aside for him. The door was never used for the reason that the Humans kept it fastened, so that opening it would have aroused their suspicions. Felix wriggled through. As he kicked himself across the small anteroom leading into the lab proper he heard the Big Ones sliding the grill back into position. *Nothing*—especially now that they were so near to success—must be allowed to make the

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crew-men suspect anything wrong. Even the Big Ones, who weren't too bright, understood *that*.

Felix hadn't been 'reaching' with his mind—too much telepathy was still inclined to tire him—so he had no warning of what to expect. Weightless, unable to stop himself, he sailed gracefully into the Lab—right smack into the middle of it.

He was hit five times and sent spinning, his nicely timed dive ruined, by flying Big Ones. And he lost track of how often young Small Ones rammed him. Everybody in the place—*and* their young, too, if any—were in rapid motion, sailing from wall to wall, floor to ceiling, and even corner to corner. It looked like a furry snowstorm. When he succeeded at last in reaching a wall-net, he directed a thought at the white mouse clinging to the fur of a Big One on the other side of the room. The thought was wordless, incoherent, an all-embracing question mark.

"They're practising for the evacuation, Felix." Whitey explained. "And that is the problem I mentioned. Some of them—the young, especially—won't be able to make it." Whitey stopped to give instructions to a Big One who was floundering helplessly out in the middle of the lab. He resumed, "Come over here, Felix. We can 'talk' better at short range."

Felix was again hit several times on the way across by flying Big Ones. But being in collision with a guinea-pig wasn't painful, merely disconcerting, and he hadn't enough dignity left for that to be hurt. He had just settled beside the Big One bearing Whitey when Singer flew in and joined them. The canary hung, wings folded and turning slowly in the draft from the air-conditioner, just six inches from Felix's nose. Felix wondered suddenly what it would be like to bite his head off.

Radiating shock and panic, Singer flapped desperately out of range. "Stop that, Felix!"

Whitey was really angry at him, with the helpless, frustrated anger that is inspired by the constant misbehaviour of a backward child. Ashamed, Felix addressed Singer.

"Sorry, I didn't mean that. I wouldn't hurt you for anything. Come on back."

Singer fluttered back nervously, thinking about horrid, insensitive brutes, and great hairy cannibals. He wasn't completely reassured.

Whitey, his anger gone as quickly as it had come, began to state the problem.

"You two know that we intend to evacuate everyone, and you also know how we're going to leave the Ship—in one of the radio-controlled testing rockets. But we've misjudged badly. The distance from the Lab here to the launching slips is a little over five hundred feet, and now we find that there won't be enough time to get everybody to the rocket.

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" You see, several trips will have to be made for the young, and the Big Ones are slow and awkward. They've never had the chance to practise long-distance weightless travel like us, and they're very much worse at it than we'd expected. And they're so slow to learn, some of them . . ."

So slow to learn, Felix thought sadly. Just like me. He knew that all three of them were thinking about the Change, and how it had affected them personally, as well as the way it affected their species as a whole.

Not one of them knew for sure just why the Change had come about, but there were theories. The generally accepted one was that the prolonged absence of gravity occasioned by the operation of the Ship's overdrive, or the freedom from their home planet's gravitation, or the removal of some hypothetical radiation given off by the home sun, either singly or taken together had caused a change in the cell structure of the small, relatively simple brains of the animals aboard the Ship. Its result was a steady increase in their I.Q.

The Change, however, did not occur at a uniform rate, but varied with the size of the brain concerned. The small-brained mice were affected first. They developed a high intelligence quickly, and with it the faculty for communicating telepathically. And, as well as reading each other's thoughts, they were able to tap the mind of the crew-man who came to the Lab at weekly intervals to replenish the automatic food dispenser which kept them fed.

They learned a lot from him; his duties, his background, what he thought about the other members of the crew, and, most important, the purpose of the Expedition. Also, because he vocalised his thoughts, they learned the language. This increased their understanding of their environment, but it also caused them to make an important assumption based, though they didn't know it, on too little data.

Because the Ship had only been gone from Earth barely four months, and the awful boredom had not yet set in, this particular Human was full to bursting with the glorious thoughts of this first exploration among the stars, the possible colonisation of newly discovered planets, and a warm, brotherly feeling towards everybody in general. And he was naturally kind to animals. He was also the only Human whose mind was available to the animals for reading—no other crew-man came within the thirty-foot radius of the Small Ones' telepathy. Their assumption, therefore, was justified.

For six weeks the community of Small Ones existed in the Lab, with servo-mechanisms attending to their every need, happy, contented, and very excited.

They thought they were the Ship's colonists.

Then one day Singer had been put in the Lab. Singer was a completely new species to the Small Ones. He was bright yellow in colour,

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had ' wings ' which made it easy for him to move about in the weightless condition of the Ship, and he produced audible vibrations which were very pleasant to hear. Though he wasn't as bright as the Small Ones, the Change had made him telepathic. He had a lot more information to impart about the Ship and its crew, information that left the Small Ones shocked and horrified. He was able to tell them of their true status aboard the Ship, and of the fate that experimental animals could expect when the time came to test the atmosphere, plant-life, and bacteria of a new planet. Singer also told of a ferocious black monster the Humans called ' Felix ' that roamed the Ship, and how the Humans had put him in here to keep the beast from killing him.

Living was suddenly a grim business. They would try to escape, of course, but the Small Ones knew enough about the operation of the ship now to realise how small was the opportunity of doing that. And they couldn't leave the Lab even, because of this thing called Felix. If that had been possible they might have been able to create an opportunity for escape, by sabotage or some other means. But the only thing they could do was wait, and hope that the Big Ones, who also lived in the Lab, would be able to take care of ' Felix ' when they became further advanced.

But the Big Ones had been slow, Felix knew, and their bigness was only relative. Luckily they never had to try taking care of him; a scrap between a guinea-pig—or even several guinea-pigs—and a full-grown cat would have been no contest at all.

Felix had been nosing about outside the Lab one day, hoping to catch himself some food ' on the hoof,' when he suddenly realised that the animals inside were ' talking ' to him. The reason for the strange ability he'd noticed in himself in being able to understand the Humans —even when they didn't speak aloud—was explained to him, and very soon he had more important things on his mind than a craving to eat Small Ones. All at once he had become an important person, an *invaluable* person. The way the Small Ones explained it, his wider knowledge of the Ship and its crew, together with his aid in guiding them to certain key spots, would make an escape not only possible, but highly probable . . .

" Pay attention, Felix!" Whitey radiated sharply. Felix came hastily out of his day-dream, conscious that if he'd been a Human, his face would have been very red.

" I was saying that the Big Ones are slow," Whitey went on, " and awkward. That's partly because we haven't allowed them outside the Lab much; they'd be spotted too easily. But that's the problem now, moving them quickly.

" At the moment I can see no solution. But you two being ' pets,' and having the freedom of the Ship, might be able to suggest some-

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thing." Whitey paused, and the ghastly wordless images they all knew so well surged up from the back of his mind. Experimentation, vivisection, *murder*. Grimly, he went on, " I don't want to leave anybody behind, to *that*——"

He broke off as two reports came, almost simultaneously, from opposite ends of the great Ship.

" Relay from Secondary Engines. Quarter G deceleration has been ordered for three minutes."

" Relay from Control-room. Captain has ordered quarter G decelleration . . ." It was practically a duet.

The telepathic link-ups that ran from all the key points on the Ship to the Lab were fast, efficient, and accurate. But they were just a little slower than the Ship's inter-com system. Some of the animals were able to act on the information before the decelleration hit them, and hang on. The rest dropped, an uneven, struggling layer of grey and brown on to the forward wall.

Felix landed the way he always did, crouching, and on his feet. Unfortunately he also landed on a group of eight very young Small Ones. The resultant blast of fear and raw, uninhibited anger from their under-developed minds nearly curdled his brains before he was able to reel off. Then he had to counter the bolts of the outraged parent concerned, even though the adult Small One was intelligent enough to realise that none of it was Felix's fault. There were some things that didn't depend on intelligence, Felix realised, and mother love was one of them.

Abruptly Felix felt awed at himself. He was the muscle man around here—he'd never had thoughts like *that* before. But the feeling left him just as quickly.

While the decelleration lasted Felix listened to the ranting of the Small One, and tried to keep the amusement he felt from showing too much in his mind. He hadn't hurt the youngsters, of course, just frightened them. They were extraordinarily strong for their size, and they were so light that they could take a knocking about that would probably kill Felix. He began to wonder about their toughness, and about the evacuation problem. Suppose . . .

The Small One caught his half-formed thought and radiated a horrified negative. Felix tried to reassure her, but just then weightlessness returned and he launched himself towards Whitey again.

While Felix was still airborne Whitey sent, " I heard some of that, too, Felix. Would you expand on that thought about ferrying the young to the rocket?"

Felix took the mental equivalent of a deep breath. He was acutely conscious of the fact that his thinking, when compared with that of the Small Ones, was slow and almost incoherent at times. But he did his best.

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" It is this. I suggest we ferry the young to the launching slips *before* the adults go, instead of at the same time. That way the Big Ones would have only one trip to make, and no matter how inexperienced they were, there would be plenty of time for the journey. With Singer here to help me as look-out, I can transfer them six or eight at a time to the test rocket. And even if a crew-man should see me——"

Whitey interrupted: " *How* are you going to move them, Felix?" Every mind in the room was giving him full attention now.

" By pretending to play with them," Felix answered. Hesitantly, he began to explain. " In the old days, before I knew all about the Change, the crew used to give me things to play with. It was great fun . . ." He stopped suddenly, feeling ashamed and embarrassed at the confession he'd just made. Hastily, he went on, " That was before I met you, of course.

" But what I want to say is that I know where some of those play-things are. They are soft, spherical, and their fabric is easily opened. The young ones can hide inside them while I push the things along.

" The Humans won't be suspicious of a cat playing with an old rag ball."

Almost before he had completed his thought the objections were coming thick and fast. Felix found it a little frightening; he had never had so many minds thinking at him all at once before like this. But somehow, after the first few minutes, it didn't scare him any more. It was a strange feeling. He still felt awed by their vastly greater intelligence, but not as much as before. Now he respected them—and almost *liked* them—as equals. Possibly it was the nature of the thoughts they were thinking that brought about the change in him. Felix could understand their feelings, but those thoughts hurt.

Impatiently, he interrupted the constant stream of protest. They were beginning to repeat themselves.

" Whitey ! Tell them I'm not going to *eat* the things . . ."

They didn't believe him.

Oh, the Small Ones knew that he meant what he said, Felix realised, but they didn't trust his — impulses. The less intelligent Big Ones still thought of him as a semi-domesticated carnivore, and wouldn't trust him with their young farther than they could see him. But, he knew if he could convince the Small Ones that his plan would work, they could win over the Big Ones.

Whitey hadn't taken sides in the argument yet, so that left it up to himself. He signalled sharply for attention and felt pleasantly surprised when he got it at once. He began his sales-talk.

" This is the position as I see it at the moment," he sent, " The Ship is in the process of taking up an eight-hour orbit around the first apparently habitable planet to be discovered. The planet, not yet named, is referred to by the crew as Epsilon Aurigae VII, and they

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are very excited about finding it during the first seven months of their three-year exploratory voyage.

" From our telepathic relay lines to the Ship's control centres we know that this orbiting manoeuvre will be complete in just under three hours, after which most of the crew will be engaged in mapping the planetary surface, studying its weather, or just looking at it through telescopes. Roughly an hour after the Ship takes up its orbit, two of the big testing rockets will be sent down under remote control to the surface, for the purpose of collecting samples of air, soil, and liquid from as many widely separate points on the planet as possible. These rockets will be guided automatically, and if everything goes off according to plan, we will be on one of them."

Felix paused. He was thinking about the Small One who had died so recently in the Communications room.

" We have been able," he went on, " to fix the alarm circuits here on the Ship so that the rocket containing us will apparently behave normally, though actually it will be disabled by us at the first suitable landing point so that we can disembark. But we have only an hour—*less* than an hour, to allow for slip-ups—when the crew will be too busy to notice our movements; and during this period all the animals must be got aboard the test rocket. That means that everyone here, all the Small Ones in Seed Storage, and all the relays scattered about the Ship will have to reach the launching slip and find their places aboard in that short time. And most of them will have to make several trips back and forwards for their young, or . . ." Felix regarded the untrained and clumsy Big Ones, ". . . the people who haven't been able to practise weightless travel."

" Whitey says that this is impossible."

The Small Ones knew all this, Felix thought, and the Big Ones should know it, too. But everybody had developed the habit of explaining things several times to the Big Ones—they weren't very bright yet . . . Felix got control of himself quickly. That last thought had been tactless. He hoped the Big Ones had been too busy with their own thoughts to notice his slip.

" Now my idea is that we evacuate the young of both species first, and before the orbiting manoeuvre is completed. That way even the clumsiest—" Felix would have liked to use a kinder word, but it was impossible to lie with the mind, "—Big Ones will be able to make their way to the slip in the hour remaining before the test rocket leaves. Also, with everybody making just one trip, the risk of discovery by a crew-man will be practically nil. I think I can handle it, but I'll need a lot of help."

Felix was trying to give them the idea that he'd be under their observation all the time, and that even if he had wanted to, he couldn't pull anything. It was the only way, he knew, to get them to agree to his plan.

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" There will have to be Small Ones at both ends of the line to load and unload the young, and I'll need Singer to create a diversion should a crew-man wander by and want to play with me. And I'll need help with other things, too . . ."

Abruptly he wondered why he was taking all this trouble for them. A short time ago he wouldn't have bothered. What was happening to him?

He ended simply, " I don't see any other way of doing it in time."

Later, as he was propelling a lumpy, brightly-coloured ball filled with eight struggling baby guinea-pigs along the corridor towards the rocket, Felix thought how close it had been. When Whitey agreed to his plan Felix had thought everything would be settled—after all, he was their leader. But it hadn't been like that. There had almost been a civil war before they finally agreed to his plan, and they had wasted more than half an hour with their arguing. They just didn't trust Felix, it seemed.

At the intersection leading to the launching slip Felix let his load collide with the wall-net, landing partly on top of it to keep the springy mesh from bouncing it back again. His passengers immediately shrieked that they were being murdered and they wanted their mothers. Luckily, Felix thought, it was on the telepathic frequency; had it been audible, men would have come running from all over the Ship. Hastily he reassured the Small One on relay duty in the corridor who was radiating anxiety like a fluorescent light tube. At the other end of the corridor he saw Singer fluttering around in a slow loop. That was the all-clear signal. Felix settled his burden solidly between his fore-paws and chest and kicked himself off again.

He couldn't really blame them for not trusting him, he thought, as the corridor walls drifted slowly past. There was still quite a lot of the savage in him. Much of it was due to the slowness of his Change, but a lot was due also to the crew-men who had brought him aboard as the Ship's mascot. They were the non-specialists on the Ship. They did most of the donkey work, and they were, to put it mildly, decidedly uncouth. From their minds Felix had learned practically everything he knew until the time of his meeting up with the Small Ones. The result was that he was inclined to think and act like his erstwhile ' masters.' The idiom he used when trying to express his thoughts, and his general air of tough cynicism, made it difficult for the others to trust him completely. It was very hard to convince them that his ideas had changed.

Still, even though he wasn't a nice character, the Small Ones were lucky to have him. They were intelligent, Felix knew; the most intelligent and highly-civilized beings on the Ship—and that included the crew. If they'd only had hands, and a more practical approach to solving their problems, they could have taken over the running of

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the Ship themselves months ago, and got rid of the Humans. But they weren't tough enough, or practical. When there was any time to spare they used their high intelligence to get into philosophical discussions among themselves, and they were, Felix thought pityingly, terribly unrealistic—soft, even. Like Singer in many ways.

Why, when Whitey had begun planning the Escape he'd told Felix —seriously—that nobody was to be hurt, *not even crew members.*

Felix had thought that very funny.

Just before he made contact with the bulkhead at the end of the corridor a sudden surge of acceleration sent him skidding into the wall. Clinging to a section of wall-net he watched his load roll for several yards, then lodge itself none too gently in a corner. The mental uproar from the passengers nearly drowned out the message from a relay somewhere in the vicinity who reported, " Captain has ordered half G acceleration for three seconds."

Now, Felix thought disgustedly, they tell me.

Singer, who was fluttering his wings slowly to compensate for the half G, hovered a few yards away. Anxiously, he asked, " How many more, Felix? There isn't much time left . . ."

" About a dozen Small Ones, and five of the others." Felix replied as the engines stopped and he began pushing his load through the open air-lock of the Test Rocket blister. "Relax. Two more trips should do it."

But Singer was the worrying type. Supposing Felix was caught at the wrong end of a corridor during a burst of acceleration. A fall of a hundred or more feet, even under quarter weight, would be bad for his passengers . . .

And it would be bad for him, too, Felix thought grimly. Possibly it would be fatal. He told Singer rather sharply to be quiet. Felix didn't like being reminded of all the unpleasant things that could happen to him.

Both test rockets lay in their slips. Blunt, grey torpedoes, their access panels lay open, and their stiffly-extended antennae made them resemble twenty foot beetles. Streamlining was unnecessary; the things weren't designed to break speed records, but to cruise about in the atmosphere of the planet being surveyed at a speed that wouldn't damage their sensitive testing gear, and possibly the even more delicate samples they would pick up from time to time. It was this low speed factor that had made the Escape possible. An ordinary missile, or even a message rocket, with an acceleration of fifty or sixty G's would have made a thin stew out of its passengers five seconds after blast-off. He thought the whole thing had depended on luck right from the start. The animals, apart from odd instances like the Communications Room death, seemed to get all the breaks.

Felix didn't like that. He was distrustful of too much good luck.

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He gave his load a gentle nudge in the direction of the nearer rocket. It appeared deserted, innocuous, but Felix knew that inside it was a hive of activity. Most of the Small Ones from the nearby Seed Storage section—the 'wild' brethren of the Laboratory mice whose job was the provisioning of the rocket—were already in their positions. The rest were hidden at the open access panels waiting to take care of Felix's passengers.

"Here's another bunch of them," Felix thought at the apparently empty hull. He added lightly, "Fragile. Handle with care."

"Right," came the curt response. "We see them."

These particular Small Ones had no sense of humour at all where Felix was concerned, and with good reason. Before the Change had made them too smart to be caught, and before that same Change made Felix a reluctant vegetarian where live meat was concerned, he had hunted them a lot. During the early part of the voyage the carnage in Seed Storage had been shocking. They had never forgotten it, or forgiven him. Felix thought sometimes that living on a planet with the Small Ones wouldn't be much fun with a thing like that between them—he was becoming strangely sensitive about his bloody past—but when he thought of what the human minds were like at times . . .

Angry with himself for some reason, Felix kicked off on the first leg of his return journey to the Lab. He kept telling himself that he didn't care what the Small Ones thought of him. He didn't care at all. But he was an awful liar, he knew.

Transferring the remaining young to the test rocket was a simple, if strenuous job. There was only one point on the route that was dangerous—an intersection visible to anyone who might be standing in the entrance to the Control Room. But there had been too much going on in there for anyone to be hanging about the door, so they hadn't been spotted. Luck was still with them.

Felix waited beside Whitey, with an almost imperceptible weight pressing them against the wall. All around, the animals waited, too; not communicating, but thinking their own personal thoughts. He took what he hoped was his last look around the Lab. One of his cloth balls, he saw, had been stuffed with food from the robot dispenser—even though the Seed Storage people were supposed to handle the food supply end. Somebody was taking no chances. All the cages were open, and both of the ventilator grills above the door had been moved aside. As he watched, the door swung suddenly outwards and hung open under its own weight. The Small One who had been working at the latch jumped free and fell slowly across the room. They were almost ready to go.

If a Human should look in here now, Felix thought, it would be just too bad.

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Weight disappeared again as the gentle decelleration ceased. Seconds later a Small One in the tensely-waiting crowd announced, " Relay from Control-room. Captain has ordered kill engines. Orbiting manoeuvre completed."

To everyone in the room Whitey sent, " You know the drill. Nothing can go wrong if we're careful, and if we keep our heads. The relays will give warning if a crew-man intends coming too close to our escape route, minutes before he arrives." Whitey was obviously thinking at the Big Ones as he went on, " There are lots of places to hide along the route if a Human should come—inside the crew's life-suits, for instance—so there is no real danger if you don't panic. Get to the rocket as quickly as possible. And remember, you're on your own.

" The way is clear now. Move off !"

He added, " You first, Felix."

Felix sprang neatly through the Lab door, caught the corridor wall net, and sprang again. An almost-solid mass of dun-coloured animals erupted behind him and began to pile up against the wall facing the door. He caught the sharp, clear thought of Whitey cutting through the growing confusion, trying to sort the mess out and get it moving again. Felix didn't envy him his job.

Felix took up his assigned position—at the intersection in sight of the Control-room—and waited. There were men in there—he could hear low voices — but the range was too great for him to catch their thoughts. They couldn't have been important anyway, or the relay in there would have passed them on. With a whole new planet to examine, the crew were far too busy to think about the laboratory animals—*yet*.

Eleven Small Ones came sailing along the corridor. They landed against the wall-net almost as one, then launched themselves on the next leg of their journey, still in that tight formation. It was beautiful, Felix thought, but then the Small Ones had had plenty of practice at weightless manoeuvring; besides, one of their greatest sources of pleasure was the execution of the most highly-complicated aerobatics to mind music. They were thinking serious, personal thoughts, but when he asked how the Big Ones were making out, one of them came out of it long enough to send him the mental equivalent of a snort of derision.

When Felix looked back along the corridor he saw what the other had meant.

A kicking, madly-struggling mass of Big Ones had just reached the end of the passage. A few Small Ones were trying to control the resultant pile-up, but without much success. It looked, Felix thought in awe, rather like a cloud of leaves being blown slowly up the corridor by a whirlwind. The Big Ones were moving fast, but they'd no sense of direction at all—they kept bouncing *between* the walls, rapidly, and with a violence that made Felix wince. For every foot they moved

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forward, they travelled yards sideways, and even at this distance he could hear their panicky squeaking. Some of them definitely weren't keeping their heads. Suddenly worried, Felix sent to the relay near him, "Tell them to stop that noise, or the Humans will *hear* them."

There wasn't much danger of that just yet, of course. His ears were more sensitive than any Human's, but Felix didn't want to take any chances at all.

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One of the Big Ones, more by luck than by judgment, came sailing up the middle of the corridor to land on the wall opposite Felix. Pleased, he began to radiate grudging approval, then caught what the other was thinking. "Don't!" he warned desperately. "Not that way——"

But he was too late. The Big One, disoriented and frightened by his trip, had already taken off from the wall, *and he was headed down the corridor leading to the Control-room*! Felix made some hurried calculations of direction and velocity, hoped fervently they were right, and took off after him.

Even with his stronger muscles giving him greater impetus, they were half-way to the Control-room door before Felix caught up with the other—and then he thought he was going to pass him. But with a series of convulsions that nearly broke his back he got close enough to grab a furry leg in his teeth. He hung on desperately as their different masses and velocities sent them spinning rapidly about their common centre of gravity. They smacked hard against the wall, only a few yards from the Control-room. Ignoring the frenzied struggles of the Big One, who was sure his leg was bitten off, Felix transferred his hold to the fur at the back of the other's neck and leapt back the way they'd come. He anchored himself solidly at the intersection.

"*That* way, stupid," he sent angrily, and with a strong jerk of his neck muscles he flung the Big One into the corridor leading to the launching slips.

Abruptly he was sorry. There'd been no time for gentleness, of course, but he'd almost enjoyed mauling the unfortunate Big One back there. The other had been lost, confused, never been outside the Lab before. He shouldn't have . . . Felix didn't quite know what he shouldn't have done.

"The thought does you credit, Felix."

Whitey had left the brown maelstrom that was boiling past the intersection, and was clinging to the net beside Felix. He had been in the thick of it, trying to keep the Big Ones moving—in the right direction, if possible—and he looked decidedly ruffled. He had been in collision with inanimate walls and over-animated animals alike more times than he could remember, and his nerves were beginning to suffer, too. Felix got all that from his mind in the brief pause before Whitey continued.

"That was fast, accurate thinking back there, Felix," he complimented. "You did very well—you can be proud of it. And when we reach the planet, you're going to do a lot better . . ."

Suddenly uncomfortable and vaguely frightened at some formless meaning that was behind the other's thought, Felix interrupted hastily.

"Is that the lot?" He indicated a few stragglers floundering after the main group along the corridor leading to the rocket blister.

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" Yes, that's all of the Big Ones," Whitey replied. " But the others have been told to wait for a bit. There's enough crowding and confusion as it is, and they, being Small Ones, can move quickly and hide more easily if they're spotted. They'll wait in the Lab until the Big Ones are safely aboard."

But Whitey wasn't to be put off by questions. Returning to his praising of Felix, he send, " You don't have to feel uncomfortable, Felix. Or frightened, either . . . but tell me, what do you think of the Big Ones? And what, in your opinion, makes them think and behave as they do . . .?"

Felix thought that this was a fine time to start a philosophical discussion, but Whitey tactfully ignored that thought, so he began trying to explain how he felt about the slow, unbelievably impractical, but somehow likeable Big Ones. He didn't take long over it as he'd never really thought about them very much.

" You should have thought about them, Felix. You're wrong, completely wrong, in everything you think about them—" Whitey broke off as a straggler came crashing into the wall beside him. He reassured the frightened Big One, told him to take it easy, and sent him on his way again. Then he returned to Felix.

" They're definitely *not* stupid, Felix. Just slow to develop," he explained. " The Change is very gradual in them. With us Small Ones it was different—we Changed and reached our peak very quickly—in a few months, in fact. But now we've found indications that the Big Ones have a much greater potential I.Q. than we have—they are still changing. In a few months time, Felix, they will be our intellectual equals, *then they will pass us.*" There was no sign of rancour in the thought—Whitey was too highly-intelligent and civilized for that—only a great and burning excitement. " Think what this means, Felix. The size of their brains compared with ours . . ."

"*No*!" Felix was frightened, scared. He didn't want to think about it.

" But *yes*, Felix," the other contradicted. He stated solemnly, " You can't avoid the obvious. I am now certain that, barring accidents, you will eventually outstrip all of us. You will be the leader.

" If only," Whitey ended wistfully, " You weren't the only one of you . . ."

Felix felt suddenly that his brain had turned into a bubbling porridge and was about to squeeze from his ears. Fear and disbelief gradually gave way to belief, and an even greater fear—the fear of ***responsibility***. But before he could form a coherent reply, another interruption drove everything else from his mind.

" Observation Room to Whitey," the relay in the corridor reported. " A Human has just left here. Intends walking in direction of launching slips. No fixed purpose—thinks he's in way of specialist crew members." The Small One stopped, waiting instructions.

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Three long, agonising seconds later, he was still waiting.

Felix had never known Whitey to behave like this before. The other's mind was a tight knot of fear and panic. It was an unforeseen and possibly tragic turn of events—just a sheer piece of filthy luck, but, Felix thought with a sudden feeling of pity, Whitey was behaving almost like one of the guinea-pigs.

Suddenly Felix remembered something; he took the initiative.

"Singer! Where's Singer?"

"Here, Felix." Singer was close by, only a few yards around the turn of the corridor.

"You heard that report." It was a statement, not a question. "You've got to intercept that Human, and stop him. Do the same as you did in Communications this morning—but get to him *quickly*. Follow the relay line to Observation, they'll give you his movements.

"And Singer, this is the most important job you ever had. Everything depends on it. You've got to stop that Human from coming here. The Big Ones aren't all aboard the rocket yet, and half the Small Ones are scattered over the Ship on relay duty." He ended grimly, "Stop him, Singer, if you've to peck his eyes out."

"*Felix*!" Singer was shocked again, but he got moving. Felix addressed Whitey:

"Better call in the relays. Singer may not be able to stop that Human, but if he delays him enough to get everyone to the launching compartment . . ."

To the relay beside him Whitey commanded, "Send this. To all Small Ones on relay duty and those waiting in the Lab. Move as quickly as possible to the launching slips—*now*. This supercedes all previous instructions." He paused, then went on to Felix alone, "You really meant that? About blinding the Human?" Horror, and a great sorrow was in the thought. "I cannot allow that, Felix, no matter what happens."

"*You* can't allow it!" Felix was exasperated. Angry yet somehow pitying, he went on, "Listen. You tell me I'm going to be boss eventually. Well, I'm taking over *now*—temporarily. You people aren't equipped to fight your way out of this, or anything else. I don't know how you'll be able to exist on the planet if one of its native life-forms decides to put up an argument—brains aren't everything, you know. You're just too civilised for your own good. You wouldn't hurt a fly, even if not hurting it was to kill you." Felix became more and more heated as he continued, "With me its different. You need someone like me to protect you. Someone who knows Humans well enough to be able to fight them. I ask you, would you let all our friends be caught and killed in lots of unpleasant ways, just to keep a Human from being messed up a little?

"Before *I'd* allow *that* to happen, I would kill that Human." He ended viciously, "There are ways an intelligent, trusted cat could do just that."

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" Felix, you wouldn't . . . you *can't* take a life—even a Human life—like that." Horror, revulsion, and a terrible shocked urgency were in the other's thought. " Please don't think like that, Felix. Even injuring him . . ."

In ones and twos Small Ones were passing them, landing on the wall, and leaping towards the rocket compartment. They were the relays from all over the Ship, making for safety, escape. None of them paid any attention to the argument; they were too busy with their own thoughts.

". . . You wouldn't be able to live with a thing like that on your mind," Whitey went on desperately. " You think you could, now. But later, when you've grown more intelligent, more sensitive . . . You're still a baby, Felix, a young savage, even if——"

One of the Small Ones passing broke in urgently, " Whitey. Singer's in trouble. Couldn't get details, the relay line is breaking up too fast, but it seems the Human got scared and took a swat at him. Broke his wing. Now the Human is taking him to Sick Bay to patch him up."

The Small One hurried on.

Felix used some thought vocalisations that his old ' masters ' would have envied. Then—

" To all Small Ones who can hear me," he sent as strongly as he could. " If you can get to the rocket within one minute, *move* ! If you can't, *take cover* ! "

Sick Bay was next door to the launching slips.

The corridor was suddenly empty as the Small Ones scurried for cover or the launching compartment. Felix knew that less than fifteen minutes remained before the rocket took off. And seconds before that happened, the access panels would close, the inner air-lock would seal itself, and a section of the Ship's hull would swing outwards—all automatically, and pre-timed to a second. If anyone wasn't aboard by that time, it would be just too bad. Felix knew what his own chances of making it were now that this latest crisis had been sprung on them, but he also knew that somebody should take control of the situation at the test rocket. Somebody smart—or in the confusion only a handful would get away . . .

He had no need to finish the thought, Whitey knew what was required.

" I'll go, Felix. But try to make it yourself. We're going to need you." Whitey tried to be commanding, but there was uneasiness in his thought as he reiterated, " And remember, Felix. I won't allow anyone to be hurt."

" I'll try," Felix replied hastily, " And there'll be no rough stuff unless its necessary. Get going, Whitey. Luck."

The soft slap of sandals on the wall at the end of the corridor announced the arrival of the Human. The Man didn't notice the rapidly-

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moving Whitey against the light grey paintwork, he came sailing nearer, still unsuspicious. As the other drew level with him, Felix leapt alongside with just enough power in his spring to keep pace with him. He was getting an idea.

The man reacted as expected.

"Uh-uh, Felix," the Human said harshly, "Don't touch," and hastily he transferred the unconscious Singer from his hand to the safety of the inside of his blouse. He was thinking that if Felix tried any tricks with the injured canary he would kick Felix the length of the Ship. The man didn't like cats.

So the crew-man thought he wanted to get at the bird. Good; that was exactly what Felix wanted him to think.

As they drifted nearer the launching compartment, an urgent thought from Whitey told him that there were still a lot of animals milling about outside the rocket. Felix had expected that. He made contact with the wall-net and, just as the Human was approaching the open lock of the launching compartment, he sprang hard at the Human's chest.

He landed with considerable force beside the bulge that was the unfortunate Singer, sunk his claws into the fabric, and began screeching and spitting for all he was worth. Startled and angry, the Human tried to knock him off, all the time thinking of sneaking, treacherous cats trying to eat poor, defenceless birds. When Felix fastened his teeth into the other's sleeve—and into a piece of his arm, too—the Human began to get rough. It was quite a melee.

It ended when a vicious, open-handed smack sent Felix against the wall with a thump that nearly shook his teeth loose. But it had served its purpose; they'd floated past the open air-lock without the Human seeing what was going on inside.

Feeling more dead than alive, Felix watched the crew-man halt himself neatly at the door of Sick Bay. Once in there, Felix knew, even though the launching slips were only yards away, the animals would be safe, because the Human intended to be busy working over Singer for some time. Maybe Felix would be able to make it to the rocket after all. The thought that Singer and some of the Small Ones still in hiding about the Ship would not make it had a dampening effect on his sudden rise in spirits. But, he told himself, he couldn't do anything about that.

The Human had the door open slightly, and was looking backwards over his shoulder to see that Felix wasn't going to sneak in, too, when he stared suddenly along the corridor. His jaw dropped open.

Felix felt the fur rise along his back. There was no need for him to follow the startled crew-man's gaze—he saw what was happening with shocking vividness in the other's mind.

About twenty Small Ones had landed at the intersection at the other end of the corridor. Felix had forgotten about them; they were the ones Whitey had told to stay in the Lab, and because the relays had

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been called in, they'd had no knowledge of Singer's failure to stop the Human. Watched by the startled crew-man, they took off again as they'd landed—in a tight, geometrically exact formation—in the direction of the launching room's air-lock. They must have seen the Human half-concealed in the door-way as soon as they jumped, but while rushing along the centre of the corridor in weightless flight there was nothing they could do about it.

Of all the blind, senseless, *lousy* luck. If it had happened just one second later the Human would have been safely in Sick Bay. But no. Bitter rage, born of dispair, flared suddenly in Felix as he thought how near they'd been to escape—the gentle, impractical, too-intelligent Small Ones, and their slow, apparently-stupid, but likeable big brothers. But some of them could be saved yet—the ones already aboard the rocket—if Felix could force himself to act quickly enough.

The initial surprise in the crew-man's mind had given way to an intense curiosity, and there was a slowly gathering suspicion as well. Felix knew he had to act fast. Deliberately he let his rage take root in his mind and grow. He could have controlled it at the start, but instead he fed it with memories, painful and humiliating incidents, anything at all that would fan it to greater heat. For what he knew he had to do Felix would have to be in the proper mood. He no longer trusted himself—or the soft, sentimental way he'd begun to think lately.

From inside the launching compartment Whitey's thought beat at him, desperately urging him to stop, to *think*. But it was like a cup of water on a forest fire. His rage mounted. Hazily he knew that the crowd of Small Ones had landed at the air-lock and that Whitey was giving them orders, but the thoughts didn't register. His rage grew to a blazing, white-hot fury, and his eyes never left the crew-man.

The Human hung about ten yards away, with one hand holding the door and the other inside his blouse, defenceless. Vaguely, Felix knew that all the Small Ones were thinking at him now, but it had no effect at all.

For an instant he tensed for the spring, calculating, watching the Human's face. Then, with black murder in his heart, he leapt at the other's eyes.

He never reached them.

The mass and inertia of a moving Small One is inconsiderable, but twenty of them, leaping together and hitting him as one, was more than enough to deflect his dive towards the Human. Felix crashed into the wall-net amid a cloud of Small Ones, two feet away from the crew-man. He was too shocked by the turn of events to move, but the Human wasn't. Kicking himself free of the doorway he drifted up the corridor, thinking that if he didn't get out of here quick he'd be drowned in living mice; and then thinking that mice shouldn't behave like that, and that Felix shouldn't . . .

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Suddenly the Human's thoughts began to jump around. Instances, apparently unrelated, were linking up in his mind. Wires gnawed through, small components missing, tiny but important gadgets sabotaged. Could it be . . . Just then his jump carried him past the open lock of the launching compartment. He saw what was happening inside.

Felix hadn't realised how quiet it had been until the General Alarm siren blared out. Senses dulled with despair he watched the crew-man jabbering into a wall 'phone and holding the Alarm button down with a hard-pressed palm. Voices began approaching from all over the Ship; excited, slightly frightened voices. Thoughts followed them as the crew-man at the intercom broadcast his suspicions—the wary, coldly-implacable thoughts born in the brains of the most ferocious and deadly beast of all, *man*.

But, Felix knew, these beasts were logical. They would realise that they still needed experimental animals for the planets they hoped to find. They would not, he hoped fervently, slaughter all his friends right away.

But if they were too angry, they wouldn't behave logically.

Through the direct observation port Captain Ericsson watched a star that blazed like a gorgeous sapphire against a background of scattered silver dust. Home. He could almost see it coming closer. Smiling, he stroked the cat that sat on his shoulder, serenely following his gaze.

" Good thing your friends didn't make it to that first planet, Felix," he said reminiscently. " That virus . . . They wouldn't have lasted a week. But they should do all right on the world we picked for them. No animal life to speak of, but a semi-intelligent plant-life to keep them from getting too lazy. Unless . . ."

Unless the gravity of their new planet brought about a reversal in the Change that had taken place in space, he was thinking. Even he didn't know for certain whether it was the prolonged absence of weight that caused it, or some enigmatic radiation given off by their home sun, Sol. That was why Felix had elected to remain on the Ship. A cat among a colony of mice and guinea-pigs, and all of them degenerating . . . It wasn't a pretty thought.

As he addressed the others in the room, the tremendous being that Captain Ericsson had become used spoken words. They would be orbiting Earth in three days, and he wanted to become accustomed to communicating non-telepathically again. He said, " We are not going to like the Earth, even though it is our home. We've . . . outgrown it. The Change in we humans, with our larger and more complex brain structure, was very slow indeed—it took almost two years before our maximum development was attained. But even Felix here, who looks on us as near deities, is incapable of realising just how much we

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have matured." He paused, shaking his head gravely. "No. It is our duty to report the habitable planets we've found, the Change that takes place in space, everything. And they will want some of us for psychological testing. But we will not like Earth. On Earth they fight, and hate, and do violence. They . . . they *kill*.

"I think we will want to leave again as quickly as we can."

The girl gave a surprised squeak as the cat landed in her dinner. Her companion, a very big man, jumped to his feet, but he didn't touch the cat. Walking heavily, he came towards its owner. He intended to mangle him.

Reading his intentions, the spaceman fumbled with the handle of a table knife, then abruptly pulled his hand away as if it had stung him. Horror, and shocked self-revulsion contorted his features. Resignedly, he got to his feet and began a stumbling apology.

Incoherent with anger, the man gripped his shoulders and began to shake him. He made no defence. Then the other saw the tiny golden emblem of the First Interstellar Expedition on his collar. The hands loosened their grip and dropped away.

"A Saint," he said harshly. "A stinking Angel that couldn't get back to heaven." The man's anger died, and was replaced by something that was not quite fear, but an emotion almost of envy. He growled, "Get out, or I'll . . ."

Outside the restaurant, the spaceman lifted the cat to his shoulder. Angrily, almost pleadingly, he burst out, "Why, Felix, *why*? Have you forgotten *everything* . . .?" He stopped, thinking of how he himself had almost gone for that man with a table knife. Frightened suddenly, he whispered, "We've got to leave, Felix. Somehow we've got to get out there again . . ."

James White.

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For many years we have (editorially) sung the praises of British authors whose names are familiar on both sides of the Atlantic. We now reverse the role and welcome an American who is equally as well known to British readers, both as a writer and an editor. His story which follows is published in magazine form for the first time on either Continent.

IDEALIST

By Lester del Rey

Waking was filled with fear. He tried to cling to the absolute unconsciousness his sleep had once been, but it was impossible. His mind jumped and quivered. There was pain there, but the vague memory of pain was stronger than the reality. He felt himself holding his breath, and let it out slowly, waiting for the sounds of violence.

Everything was silent, except for the ticking near him that was too slow to be a clock. There were no sounds of the Station . . .

The Station ! He chased the thought down, and drew a complete blank. This was no railroad station. This was some neverland where even weight was missing. He seemed to be floating in emptiness, with only a faint draft of air across part of his face, and a weak pressure of something warm on the rest of him.

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Then he smelled the faint odour in the air and knew it must be a hospital room. The warmth of the cloth around his head became bandages. The weightless feeling must be the after-effect of drugs. Even the deepness of his sleep and the fear of some dreadful vagueness could be products of the drug. In that case, his expectation of violence was a hangover from the accident that . . .

Memory failed, just as something touched it. It was as if it came to a stone wall and bounced back. The dreadful word amnesia struck him, but was followed at once by reassurance. He was Paul Fenton, who would finish his engineering work at Caltech some day and have a chance to work on the rockets that would give men wings to the planets. He was in the Air Force now, first in his group, anxious to rid the world of the menace that lay over it and get back to his studies. He'd just been assigned . . .

Again there was a slipping of his memory, but it didn't matter. He knew he was sane, hungry, and burning with thirst. The pain still bothered him, but it was going away.

He tried to sit up, but something held him back. Tardily, his eyes opened, to see a webbing sack apparently surrounding his body. Four thin elastic cords led from it to the walls—metal walls in a tiny room, with everything apparently fastened down. There was a chair on the ceiling, machines on two walls, and a bottle bobbing about in the air currents from a small ventilator, unsupported in mid-air !

Space ! It wasn't speculation, but certainty. He was in free fall, in a space-ship. His first wild idea of an alien race vanished before it was full-blown. The things he could see were clearly of human make—and he'd known somehow that it had to be human.

Attached to his arm was a tube that led up to a clicking machine, where a meter registered zero. The drug must have been continuously dripped from there, until it was exhausted.

" Nurse ! " His voice echoed hollowly against the metal walls. He waited, without answer, and shouted again. " Nurse ! Doctor ! Somebody ! "

The ship was silent, except for the ticking of the machine and the faint drone of a fan. Fenton jerked the needle from under the bandage and began pulling himself out of the cocoon. His body moved well enough, now. On one wall was a plastic bag with a strange, green uniform in it, and he found that the clothes fitted him. He zipped the jacket closed, and automatically located and lit a cigarette. The smoke relieved some of the tension, until he noticed the P.F. engraved over an elaborate seal on the lighter. It showed a stylized space-ship leaving Earth, heading to what might have been a space station.

He sucked harder, considering why his initials should be there, and why the uniform seemed tailored for him. Then it dawned on him that he had no memory of learning to smoke.

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When he finally found a flat surface on one machine that could serve as a mirror, another shock hit him. It was his own face, under the bandage that was wound around the top of his skull—but an older, grimmer face, with bitter crow's feet around the eyes. His body had filled out, and what little hair he could see had touches of grey mixed with the brown. He might have been thirty-five instead of the eighteen he remembered.

The lost years hit him where nothing else had touched. He screamed and threw himself to the door of the tiny room. It wrenched open in his hand, showing a long tube.

"Nurse! Hey! Help!"

But the only answer was the echo of his own voice bouncing off the walls. The ship, or whatever it was, was a dead thing. He called until his lungs ached, and nothing happened.

Slow, steady! He thought the words, but his heart went on racing, and a clammy sweat broke out, itching under the bandages. With a desperate lunge, he went sailing up the tube, braking his landing against the further door with his hands. He stopped there, feeling a faint weight. He knew automatically that weight picked up as he went further from the centre of the spinning Station, but he had no time to consider the odd knowledge.

He ripped open the door, and dropped through it, into a room filled with green plants in tanks. Again he shouted, driving himself into a frenzy of sound that rebounded savagely from the metal walls.

But it was useless. The Station was as silent as the growing plants that replenished its air supplies. There was no sound of humanity to reach his ears.

Instinct sent his legs pumping, driving him towards the door of the room. He was reaching for it when he tripped over something and fell to his hands and knees, skidding forward in the light pseudo-gravity.

It was a corpse. The lieutenant bore the stylized symbol of Hydroponics on his shoulder, but there was only part of a head above it. Fenton jerked back from contact with the gore, and then saw that the corner of one of the tanks was spattered. The man's head had crashed there violently, and the tank had stood the shock better than his skull.

There were other marks of violence. Some of the tanks had spilled, leaving the floor damp in places, even though the water had been drained away. Others had broken under some shock. The plants had stood it, in some places. In others, they were matted down as if a hand had squashed them.

Fenton got up, the sickness stronger in him, and opened the door with some effort. It had warped, and stuck. But beyond it, there was worse than what lay behind.

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Part of a girl lay smashed against a wall, and here the smell showed that she had been lying there for more than a single day. The sick cloying odour of human death was heavy in the room where the plants had not covered it. Fenton saw a man's body, with a lever projecting from it, and then he was out of there.

The next room held nothing, beyond some wrecked machinery. But the one beyond that had been a bunkroom ! He dashed through it, and through others beyond. Something had hit the space-station—he knew it was a station now—and the violence of that had been enough to kill and maim anything or anyone not specifically protected. He'd been lucky. The elastic webbing suspension must have absorbed enough of the blow to save him. And, apparently, the centre of the Station hadn't been touched as heavily as the outer edges.

That could only mean an explosion of some kind. Raw space wouldn't carry an explosive force for any distance. He was aware of a lot of such details now, without having any real memory of how he came to the place. But the back of his head was taking it for granted that sometime during his memory blackout he'd been sent here. A lot could happen in fifteen years or so.

Then he glanced at his own shoulders, and the device had sudden meaning for him. He took it for granted now that this was his own uniform—and the symbol showed that he had been a lieutenant, serving as a pilot on the little ferries that worked between the supply ships and the Station.

Somehow, that was too much for his mind, yet. Everything ebbed out of it, and he stood motionless, trying to think where he was, and why his mother had left him there. But it passed quickly. He jerked his hand off a section of the wall where blood had spattered, and the rebound of his senses brought wisps of memory with it.

He'd been assigned from the Air Force to study the piloting of rockets. There were scraps of memory which indicated that he had spent several years piloting ships up, while the Station was built, until it was assembled and he was berthed here permanently by his own desires. The great Station had become his life. Why not? It would forever end the threat of war. With it, men could take their struggles out against space, instead of against themselves. It was the opening achievement of man's final triumph, the great ideal to which his generation had striven.

" Idealism ! " he said, suddenly, and spat on the floor. He shook himself, then. It was as senseless a gesture as any human could make. Without idealism, what was there for the race but the mud from which they had pulled themselves ?

Section by section, he went through the silent Station, but it was pretty much the same. In the other half, he found the great control room closed and locked. He back-tracked, no longer sick at the sight of death.

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Now he was afraid of being alone, and driven to a frenzy of speed by the need to keep his mind from wondering what had caused this. He couldn't think of that.

He came to the section of the Station farthest from that in which he had first emerged. Here the shock had been much weaker—softened enough by distance from whatever the source was to leave few signs of it. Hope quickened in him then. There might still be people here.

He found a man, finally. The section had been practically deserted. It was a quadrant of the ship devoted to scientific exploration, and to the study of space itself. Something seemed to have drawn the men away from here, before the blow came.

But the man was as dead as the others. A bullet had gone through his right temple and had come to rest six inches beyond, against the metal wall. It wasn't suicide—there was no gun there.

Further on, before he came to the section where the signs of shock grew stronger again, he found a dead man seated in a strap affair and a woman floating in a tank of some liquid. There were holes caused by bullets to show the cause of death, in both cases.

Then he was at the other entrance to the control room. He jerked it open. "Captain Allistair! Lieutenant Morgan!"

They sat there in their webbing control seats, but they could never answer him. Bullets had found them, apparently while they were working their controls. The other men who had filled the room were also dead. But these had not died quietly. They were in positions which indicated that they had tried to reach the door where Fenton now stood—and had failed. There were spots of lead along the walls, as if someone had opened up with a machine gun, spraying the whole of the room. Even the shock that had hit the Station could hide none of the attempt the men inside had made, but here there had been nothing but corpses before that shock came.

Fenton realised that his mind was slipping again, but this time he let it go. The bandage on his head hurt suddenly, and he reached for it, sobbing softly. "Sue, Sue! Suzy, don't let them . . ."

But Susan wasn't there. It was her day off, and the neighbourhood kids were throwing rocks at him. They were bad kids . . .

He came back sharply this time, to find that he was clawing at the door, with the bandages held in one hand. He stopped sharply, and studied his head in the polished metal of the door. There was only a small, shaven section, with signs of stitches and healing around it. The concussion he'd got when he miscalculated the approach speed on his last desperate race back with more bombs from the supply ship must have cracked his skull. It must not have been too bad, though, even if he could remember screaming in pain until they gave him the first of the continuous drugging. The bombs had . . .

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He almost had it when a scream echoed down the corridor, faint, yet with all the hell of agony carried with it.

Fenton yelled back, and was rushing toward the sound around the huge circle of the Station. It wasn't repeated, and he stopped to yell from time to time, and to listen. His heart was pounding again, and a sudden fear washed through him as he remembered the man with the machine gun.

Then he stumbled into the man—but he was a corpse, like the others. The machine gun was still clutched tightly, but a section of the shelving had cut him half in two, and he hung there, an expression of utter bewilderment on his face. Fenton must have missed him the first time, or paid no attention to one body among the rest; the gunman had been before the first corpse with the bullet wound. Probably he'd been on his way to kill more when the shock hit him.

Fenton recoiled mentally from the picture of a man who could deliberately proceed on a mission of murder. But then the sound of a human voice faintly reached him and he dashed on.

It was coming from the tube that led to the centre of the Station, a weak moaning. Now it was less human, as if an animal had been wounded and left to die there.

He slid down the tube. The door to the room in which he had come to was still open, but there was another one beside it. He ripped it open, and one beyond that. There were only four rooms here in the tiny infirmary, and the last one had to be right. As if to prove it, another moan came.

He opened the door cautiously this time, but there was nothing to fear. In a cocoon like the one in which he had awakened, and with a similar drug tube in the arm, a girl's body lay. It was contorted in agony now, and the tied-down hands were threshing slightly. The face was twisted, and a steady moan came from the opened mouth.

"Martha!" Fenton leaped forward, and then stopped. It had been Martha Graves, once. But now the body there was only human by definition. Too much work in the radiation laboratory had caught up with her, starting a vicious and almost impossibly rapid brain tumour. The doctor had been forced to operate here, and most of the brain that had once held the genuine genius of the physicist had gone with the tumour, leaving only the animal functions behind. She had been supposed to leave on the next ship up.

Fenton couldn't understand the pain, though. They had meant to take her off the drugs the same day as he had been hurt. Then a twinge from his own stomach supplied the answer. He dashed out toward the nearest galley, grabbing whatever unspoiled food was available and plastic bulb of water. He swallowed rapidly on his way back.

The mouth of the unhappy creature drooled at the smell of the food. She sucked down the water, making a mess of it and began swallowing

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some of the food. Her moans cut off, and a few minutes later she was asleep.

He pulled the needle out of her arm quietly, and stood debating with himself. Then he grimaced. The eighteen-year-old section of his mind had been uppermost, obviously. Nothing he could do now would worry what had been Martha Graves. He located a bottle of alcohol in the pharmacy, poured it into a bulb, and took it back to the gravity-free centre, where he sponged her off gently. She awoke when he pulled her from the cocoon and again when he put her back, but she fell asleep almost at once in both cases.

Then he went out and was sick. The idea had finally hit him. He was alone here with something that was still female, but no longer human. And as far as he knew, there might be no other human beings in the whole universe. The supply ships should have been here before the length of time that had obviously passed.

He was surprised at that, amazed at the fact that his brain had speculated on the end of the Earth, and had almost accepted it, below the level of his consciousness, while he had tended to the needs of the girl.

With a leap, he spun to the nearest hatch leading to the outer edge of the Station. He'd never even thought to investigate it before. Then he saw the red signal over the lock, indicating that the half of the doughnut-tube farthest from the centre was without air. Whatever had hit the Station must have opened the outer edge to space, and the inner section had been saved only by the automatic seals that had immediately shut down.

He found a space-suit and climbed into it, checking its air supply. Then he set the hatch to manual, and crawled through.

It was worse than it had been below. Apparently the whole great outer seam of the Station had sprung open. The corpses here were bloated things, puffed out by the air pressure within them as they died.

But after the living death below, this didn't hit him as it might have done before. He made his way through the shambles that had been man's finest achievement. His half-memory of bombs was nagging at him, together with the things his brain had guessed at.

He located the big bomb bay, which was never to have been used, but to have prevented war by its mere existence. Here, five hundred H-bombs rested, their tubes ready to drive them on controlled courses to Earth. And here, probably, had been the place where the ones he was ferrying from the supply ship had been brought. How many? He had no idea. But now there were only a score of them, while the hand of one of the corpses was still tightly locked on the release lever of one of those.

Below him, the giant ball that was Earth lay cradled in space, blue-green on the lighted half towards which the Station was moving. He wondered whether the exact two-hour rotation of the Station had been

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disturbed. Probably not enough to show. And even completely wrecked, it could still sail on its orbit here for ever, with nothing to slow it, and no way to fall at its present speed.

Then his eyes focused on a tiny spot of light on the dark side of the Earth—tiny here, but still larger and brighter than anything he could remember. It was as if the whole of a city had burst into flames.

He stood there, unwilling to believe what alone could explain it all. Somehow, the impossible had happened. War that had threatened so long had finally broken out. Men had turned against men—when all of space lay waiting for their conquest! Nation with atomic bombs had been pitted against nation with bacteriological weapons. The threat of the bombs from the Station had become reality, and Earth had somehow reached up a long finger of wrath to strike back.

There had even been treason here. The man with the mechine gun —Peter Olin, master mechanic, ten years with the Station, Fenton suddenly remembered—had betrayed them. It must have been in his mind for years, since there was no other reason for a smuggled gun here. He'd got control over the officers so quickly that no word had spread, and then had begun working backwards, killing as he went, not caring about the noise here where so many sounds passed down the echoing metal walls. And the great guided missile—perhaps from his own nation—had struck him down along with those he had wanted to betray. Only the two in the infirmary had been spared.

"Why?" he shouted. "Why?"

He was sobbing wildly, and his cries rang in his ears when he found himself back in the control room. The incipient insanity in his own voice snapped him back, slowly this time, through his childhood horror of violence, his bravado as a youth setting out to help save the world and finally the present where his whole hope and faith had been tied up in this great hulk of metal around him.

It had failed. He faced it now—and he knew that even without all its slowly returning memories, his mind was back to the thirty-five-year level. There were twisted, bitter thoughts still, but he faced the fact which he couldn't have accepted once. The Station had failed, and his fellow men had blown out the spark of divinity in them and gone back to the jungles, with all the power of the science that could have made them star-men.

He was still crying, and he made no effort to stop it. But he was in control of himself.

Slowly, with a sick fear of what he must see, he moved to the screen that was set to show the scene on Earth toward which the telescope pointed. He flipped it on, adjusting the levers that controlled the instrument by a process of trial and error. For a moment he stopped then, and looked up toward the Moon that rode in space so far above him.

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Men had been about to reach that. He'd even hoped that he might go along. Now it was lost.

Then he looked down, seeing the vision of what had been a city through the thin veil of clouds. Atmospheric disturbance blurred some of the outlines, but enough showed through. It was a slag heap, burned out of all resemblance to a scene of Earth. And for fifty miles beyond it, desolation spread out—a land where no life could live.

He shifted the telescope from time to time as the Station moved across Earth, jumping from city to city, and finally seeking out the lesser ones. Some of those had obviously been hit only by the old-style A-bombs, but damage was complete enough.

He dropped the controls and let the scene below slide by as the Station cruised on. For a few minutes a welcome numbness hit him. Then he stood up slowly. There would be poison in the dispensary.

He reached for the screen switch, and froze. In the scene, dots moved slowly. He dropped back to the webbing seat, staring down, trying to increase the magnification. The Station was over Africa now—and that meant that he was watching some of the larger animals, probably. But . . .

Something else moved, a mere dot in the screen, but still having a vague shape. Its speed told the real story though. It was an aeroplane. And now that he looked closer, he saw that the dots below were travelling too straight for beasts. They must be cars on a road.

Life still went on.

Fenton shook himself, and his trembling fingers reached for the switch of the ultra-frequency radio. He knew too little about it to do more than turn it on and move the tuning dial across the band. For a few minutes there was silence. Then a faint sputter sounded, and he detected Morse code. He tuned in more carefully, until it was faint but clear, and reached for the microphone.

But the transmitter refused to go on, and the signal was in a language which he couldn't understand. Men, he thought for the thousandth time, should have a common speech to reflect their common origin. But it really didn't matter. He yanked open the housing of the transmitter, and jiggled with the tubes inside, knowing it was foolish, but in an automatic hope.

One of the tubes was dark. He fumbled for the locker under the table, and began pawing through spare parts, hoping that the shock of the H-bomb that had probably exploded outside the Station had left one good tube of that type. He was in luck. The meter on the transmitter flashed on as soon as he made the change.

But now the Morse had vanished, since the Station had probably gone over the horizon. Even that didn't matter. Where some survived, there would be others. The cities and the sciences would be gone, but the race would continue. And down there now, he'd be needed, as every man who has any of the old skills would be needed.

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Maybe men with some engineering training couldn't build more space-ships this generation. But they could help rebuild a world that might again look to the stars. And after the bitter lesson of this nearly fatal holocaust, there would surely be no more wars to hold them back.

It was sheer reaction to his depression, Fenton knew. But it made sense.

And he could return. There was the little emergency ship, with fuel enough to reach Earth easily. He could stock it with all the supplies available—there was no telling what might be short on Earth now. The oxygen tanks were gone with the wreckage of the outer hald. But he could put in plants from the hydroponic section; in some ways, they'd be even better. With them to replace the oxygen in the air, there was no theoretical limit to how long a man could live in the closed world of a space-ship.

He got up from the radio desk and went out and toward the loading tube, where the little ship lay waiting.

Some measure of reality returned to cancel his false optimism, while he loaded the ship to the limit. The fact that men still lived didn't make their acts in this final way any less horrible, nor did it bring the conquest of space any nearer. Little by little, his sickness and his horror returned. But there was at least some hope, and without life there was none. Even the dumbest animals learned in time; and this time, man had been given a lesson that could never be overlooked, while the great ruins of his cities still stood there to remind him.

It would be a bitter and a horrible life in such a world. But someday, in the far future, Fenton's descendants would stand on the Lunar Appenines and look up at Earth with pride on their faces.

Fenton finished his work and came back up through the ruined Station. Minute by minute the air seemed to be growing more foul with the smell of death. He came to the corpse of the traitor, Peter Olin, and his eyes dropped. Sometime, he'd have to face the fact that his race had produced men such as that; but not now—not now . . .

For a final time his mind reeled and tried to run back to its childhood. But he held it firm, and walked past the corpse. That was the past. And from now on men would have to live for the future.

He came to the control room with his muscles knotted in his sudden need to hear human voices. The Station had circled the Earth and a little more. They were over America now, and it would be no foreign tongue. He wiped the sweat from his hands, and picked up the microphone.

"Calling Earth. Calling Earth. This is Space Station, calling Earth. I'm green at this, so keep answering until I can find you. Space Station calling Earth." His own voice was hoarse in his throat.

But in a few seconds he located the signal that was coming back at him. ". . . . wondered. Damn it, some of those bombs went wild! We lost ninety-five percent, and things are pretty bad down here.

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But we got most of the other bastards before they could take us. Better land near me—I'll tell you where. Some places they blame you guys for starting it all. And before you leave, if you've got a bomb left on your racks, give them hell over there, Space Station. Give them the . . ."

Fenton spun the dial, and got a series of screams in his ears. Out of the hysteric nonsense, he gathered that the operator was suggesting that he bring down every culture in the biological experimental laboratory, before the enemies they feared could strike. "Only one bug! You've got a lot of unclassifieds," the voice was urging frantically. "Bring the whole lot, and we'll find any that we can use. We've got to strike first! We need . . ."

Fenton's fingers fumbled on the dials of the radio, and he swayed over the desk. But there was no escape. Another turn of the tuning dial brought it into place with a click that locked it. It could only be the official frequency.

". . . Temporary H.Q. to Space Station. Come in." It was a flat, hard voice—the voice of a man who has been on duty for days without relief. "Come in."

"I'm getting you, H.Q.," Fenton acknowledged, and some of the life came back into him at the realization that there was an organisation still functioning down there.

The voice answered almost at once. "Good. We've been signalling you for days. Thought you were all taken out by that damned enemy missile that got through. Can you still control . . . no, cancel that. I've just got an order for you. By our figures, you have nineteen bombs left, unless one or two missed our spotters. Here are your targets—and for God's sake, don't slip up the way you did before! First one goes to—get these, because I won't repeat—first to . . ."

Fenton cut off the radio and stood up slowly. He walked out of the corpse-littered control room, past the bodies of those shot by Olin's bullets, and past the corpse of Olin himself. He moved through the area where the explosion had snuffed out the lives of others. The dead no longer bothered him. They were nothing compared to what must exist on Earth.

He picked his way surely, out of already-acquired habit, until he found a space-suit and mounted up through the hatch to the outer section. The bombs still stood there, and there were twenty instead of nineteen. Beside them lay the bodies of men who had come up here to lead mankind to the stars, and who had died because of hatreds that should never have left Earth.

There were no longer nations down there—only enemies. They had learned nothing, and they had biological warfare left to complete what they had been unable to do with their bombs.

He found the body of a gentle old scientist he had known—a man who had been trying to find a cure out here for cancer, and had been

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near success. He touched his fingers to the clot of blood beside the corpse, and then to one of the bombs. One by one, he christened all twenty. And one by one, he pulled back the firing levers, watching them take off for Earth. Somewhere down there, they would land. It didn't matter where. Men had sent their messengers of death out into space. Now they were going home. And if they helped to send men further back toward savagery, it didn't matter—with enough time, they might return. They might even unite now, believing that the Station had started the war, and bonding nation to nation to get up here faster to seek vengeance.

Paul Fenton didn't give a damn.

He went down to the infirmary to do what he had to do for what was left of Martha Graves. For a moment, he stood over her with a needle, and then shrugged, and picked her up. Maybe she wasn't human any more, but who was? And she could still get pleasure, if only from the taste of food and the comfort of sleep.

Outside, the little space-ship was waiting, and it could carry them far enough, and land. With the plants and provisions, they could go on living in it as long as he chose, probably.

No man had ever seen the other side of the Earth's satellite. That had to be corrected. No race should go on for ever without leaving some monument to show that it has gone beyond its own narrow world, even if it could send only a single ship one way. The men who had dreamed and built the Station deserved that much, at least.

Paul Fenton paused inside the space-ship while the locks sealed shut, and he spat slowly at the floor under his feet.

"Idealist!" he swore at himself bitterly.

But his eyes were rising to stare at the Moon as he hit the controls and blasted off. The Earth began dropping further behind. He did not look back.

Lester del Rey.

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Anti-social and alien, Venusian Sickness spelled doom to whoever contracted it. Hence Hellinger's desperate bid to save the Earth fleet from disaster. It would, in part, atone for the disgrace he had brought upon his uniform.

ALL GLORY FORGOTTEN

By Kenneth Bulmer

Illustrated by HUNTER

To : Department of Research, War Office.
From : General Cardelos, Development Projects.
Subject : Operation Earth Blast.
Preliminary report on trials.

The new type sub-space drive was successfully installed on a single place interceptor, Hornet I, *and pre-flight tests indicated a maximum degree of behaviour in accordance with predicted results.*

Owing to the official Government attitude a successful trial was imperative in order to convince War Strategy that the Hornet type was fully capable of destroying the largest battleship.

A Space Force officer of the highest integrity was selected to carry out the initial trials. He was instructed in the technicalities of the Hornet type and was fully indoctrinated with the need for, and was himself completely confident of, a successful trial : moreover, he had every reason of self survival to succeed, although being perfectly willing to hazard his life.

In view of the outcome of the trial, and the complete confidence I personally . . .

Afterwards, Mark Hellinger couldn't understand why he'd been such a fool. She'd seemed a sweet, innocent kid, fluffy haired, naive and fresh, and meeting her like that, clumsily knocking her coffee over her dress in the crowded restaurant, everything had followed on so naturally.

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They'd gone for a drive down Rainham boulevard—named for the first man on Venus—drank at all the bright garish Earthly bars, then gone on to the romantic, softly glowing Venusian bistros, dreaming in lilting native melodies. They'd sat under tall, sappy trees, cushioned in eternal Venus mist, watching huge beasts, unknown and prehistoric, sporting like playful kittens in the warm ocean far below.

Oh yes, they'd seen it all that wonderful night. They'd tasted heaven. Bellinger had forgotten his wife back on Earth, she had seemed unreal, remote, across the millions of miles.

The sight of the ungainly brutes below had sent them laughing, arm in arm, an exotic singing lotus bloom in her wind-swept hair, to

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the zoo. Beneath undulating candle trees they'd fed monsters torn from the womb of time, tossed them succulent Venusian titbits. Then, with a savage suddenness that had left him numb, Hellinger had been raked across the shoulder by clawing yellow tallons.

In the hospital had come the revelation that had aged him ten years in the instant he had realised just what the oozing mass of blue splotches spreading on his skin meant.

The Venusian sickness. Anti-social and alien, a rare product of dank, rotting Venusian marshes, Earthly science was helpless under its ravages. There was no cure.

Infection from filthy claws of a primeval monster had cut Hellinger off from humankind. He had had no right to have been holidaying on Venus, should have reported direct to Naval headquarters on the Moon. His life was finished, his days as an active, normal man were numbered.

But final, bitter humiliation—he could never go back to his wife. Back to Sue and the kids on far off Earth.

He must disappear for ever from that warm, cosy, intimate circle of trust. He couldn't understand why he hadn't killed himself there and then, why he hadn't made an end of his shame in the clean flare of his blaster.

He pulled his legs in under the metallic bench as an orderly hurried past, face strained, from the Admiral's ante room. Hellinger was Navy. His folks had always been Navy. The Solar Federation Space Navy had many families represented in its long annals of exploration over the Galaxy, and the Hellingers had always been in the forefront, forever probing past the frontiers of the known.

The tiny metal cubicle rang as a mechanical annunciator shouted his name.

" Commander Hellinger ! "

He climbed wearily to his feet, wincing as a stab of pain caught at his legs. The Venusian sickness ravaged a man, then lay in waiting, to turn his middle years into a hell of premature, agonised old age. Hellinger pushed the door open, straightening his black uniform, and went inside.

The admiral was sitting at his massive desk, white hair and eyebrows shaggy and untamed. He looked up perfunctorily, caught Hellinger's eyes, and glanced away. Hellinger sensed, with something of a physical shock, the shame for him in those forthright eyes.

" Sit down, Commander. I know why you have volunteered for this mission. I cannot sympathise with you, but I can admire you for not taking the easy way out."

Hellinger remained silent. There wasn't anything to say.

" You have been briefed with all the information we have available. Facial have turned you into a complete facsimile of Captain Velos of

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the Palladian Space Force. Our ships have been able to hit them hard with an equality of fire power, our sub-space drive is very similar to theirs. However, we have reports that they are developing a new type drive which will enable them to knock our ships out of space like clay pigeons."

"I know all that, sir." Hellinger drew a sudden breath as the pain tore down his side. All this agony, all this shame, as the price of a surreptitious jaunt on Venus. "You have informed my wife that I'm dead?"

"Yes." The admiral tapped uncertainly on his desk. "You'll proceed straight to Pallas IV. Velos is engaged on development work on the prototype ship equipped with the new drive. Apparently it's dangerous, cranky. You should be able to sabotage things fairly well. Your life doesn't enter into the calculations."

"I understand." Hellinger was remembering all the doctors' attempts to cure him, their utter helplessness in the face of the Venusian sickness. "I'm leaving today."

"Good luck, Hellinger." The admiral did not offer to shake hands. All right, all right, Hellinger rose, face twisted, you won't catch it.

He went out the door without seeing clearly, his mind already out there among the stars, throwing his life away for Earth. But he'd started that back on Venus, under the candle trees, shrouded in warm, clinging mist.

The little ship from Earth cut a wide pattern through the stars, coming out of sub-space and into the zone of Palladian control unarmed and vulnerable. Four Earthmen comprised the tense and jumpy crew, falling naturally into two camps. Three of them, normal, happy, looking forward to a return to Earth and their wives and sweethearts. And Hellinger, with Venusian sickness.

They slanted down to Pallas IV, watching their screens for the first blip, ready to hurl their ship away from danger and try again. The planet grew before them, milky and golden, the sun brightening the clouds into an aura.

Operatives from Earth met them. Tightlipped men who bundled them from the ship, hustled them below ground into the spider's web of intrigue that festered under the surface.

"I'm John Jarvis," a man, thick lipped, keen eyed, greeted them. "Come with me, Velos. You others had better get your ship off at once."

Hellinger watched the little Earth ship rise from the alien planet, saw it dwindle to a speck on the screens. Then a foaming gout of incandescence marked its death. His face whitened.

"So they didn't make it." Jarvis sounded completely unemotional. "The Palladians are becoming smarter every day."

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They went on down a tunnel, came into a wide, smoke-blackened room where men lay about, smoking, reading, tensed up and unrelaxed. The Earth underground on Pallas IV took the fibre from a man, made him into a metal robot or a spineless lump of clay.

Hellinger was briefed more fully, given details of the work on which Captain Velos was engaged.

"We'll snatch him when he visits the town, you can take his place when the leave party returns to the testing site," Jarvis said, thick lips compressed. "We have a man in there now, but he's only allowed to do labourer's work. It needs a man with your knowledge to make the most of any opportunity for sabotage."

Hellinger caught the fanatical feeling of dedication possessed by this man, light years from his home. It was good to be part of the human race, then he chilled. He had Venusian sickness, he was an outcast, a pariah.

They started for the little town the next morning. A construction of shacks and entertainment palaces, wide open and brawling, it reminded Hellinger of boom towns back on Earth. The small party of Earthmen mingled with the crowds, unobtrusively integrating themselves into the background. Armed parties of guards, stiff faced and weapons ready, passed them.

Hellinger took his cue from the others, put on a bold face, brawled along the narrow streets, going from drink palace to entertainment palace. He kept his slouch hat low over his face, there was a possibility that he might be recognised for Captain Velos. They waited through the day, nerves jumpy, keeping a wary lookout on the road leading to the new weapon site outside the town.

In the evening, when flaring lights brought dancing shadows and eye piercing brightness to the huddle of buildings, he came.

"That's our man," Jarvis said, thick lips barely moving. "We'll wait until he's drunk his fill and ready to return on the liberty wagon."

In a muddy square in the centre of the town, broad tyres pressing into the soggy earth, the silent vehicles waited to take tired men back to their work. The men of Earth waited also, waited in the black entrance of a side street. Hellinger could hear their dry breathing, suppressed and eager. He ran his fingers again over his new face. Would the skill of Facial surgeons far away on Earth survive the test of the here and now? Would one of Velos' friends detect the deception immediately? Hellinger almost gasped as pain clawed at his stomach, he wouldn't very much care if he was caught and shot at once.

Jarvis glanced at the luminous dial of his watch. "Time's almost up. They'll be leaving soon. We rush them, you mingle with the crowd and go with them. We'll take care of Velos."

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"What about his identification papers? The plan calls for them. I have no fakes from Earth with me."

"That's all right. He'll be the first we snatch. I hope we can do it quietly, without fuss. It's only if others intervene that we'll have to fight."

"Listen!" Hellinger pushed forward, tense.

Men were coming down the street, singing, a swaying light bobbing before them. As they passed the huddled knot of humans Hellinger peered with narrowed eyes, seeking for the man with his face.

Jarvis surged forward, followed by his party, Hellinger drew back, pain doubling him up. He peered from red rimmed eyes, saw the knot of Palladians scatter, shouting in sudden fear. Jarvis came back, panting, threw a man's body down before Hellinger.

"Here he is. Quick, the papers."

Hands numbed and fumbling, Hellinger tore the contents of Velos' pockets out, transferred them to his own. With a mumbled farewell to Jarvis he sprang into the open, ignoring screws that clamped over his lungs, darted into the melee. More voices were raised, a gun went off, a flare in the night.

Earthmen were running now, fleeing from the menace of armed Palladian guards. Hellinger saw Jarvis start up from the black hole of the alleyway, saw his thick lips writhe over gleaming teeth, saw his whole body convulse, outlined in white fire, saw him vanish, vapourised in the blast of a Palladian weapon.

Struggling to keep his sickness down, cursing the pain running like red hot wires through his limbs, Hellinger stumbled back with the mob. So much bloodshed, so many lives laid down willingly to put him into the vital, solitary position inside the enemy defences.

Thick mud stirred beneath his tread, spraying up, plastering his legs. He couldn't see clearly what was going on out there, where black figures flung arms towards the lowering sky and crimson gouts of fire flamed and died.

A blow against his left arm half turned him round. He swung back, feeling no pain, and ran sobbing towards the greyly outlined liberty wagon. Clambering aboard, hands slipping over the muddy metal, he became aware of a dull, nerve deadening throbbing in his arm. He tumbled onto a low seat running the length of the vehicle and saw his coat sleeve stained and torn.

Hellinger stared stupidly for a long second, whilst other men crowded in cursing and white faced, pushing against him on the seat. Then he fainted

When he came to he was lying full length in a hard, narrow bed, strip lights above bringing tears to his blinking eyes. He turned his head to one side and saw a yellow uniform coat, black buttons engraved with the Palladian Space Force insignia. He felt his mind curl up and fought to repress the gasp that almost tore past his teeth.

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So he'd been unmasked already. All those gallant men of Earth had laid down their lives just so that he could lie in this hospital bed and stare his death in the face. He raised his head, lips working.

"Take it easy, Captain. You lost some blood that you can ill afford." The voice was full and throaty, rather pleasant than otherwise, and completely friendly.

Hellinger looked at the speaker and recognised from the hypno treatment he had gone through back on Earth a Captain Kinrick, close friend of Captain Velos, that is, close friend of himself. He dropped back on the pillow, and his face drew down one side as a spasm of pain ripped at his muscles. Kinrick bent over, his face concerned.

"You're going to come out of this little lot all right," he said, then added, with a touch of uneasiness that it took Hellinger fractions of a second to assess, "You didn't tell me about—about the other thing. It doesn't concern me, you know."

"I know." Hellinger knew Kinrick was talking about the Venusian sickness—what did the Palladians call it? He ran his fingers along the sheet, feeling the coarse texture like a sheet of braille. Ah, that was it. "I got the Solarian sickness recently, Kin, didn't know what to do about it. Shouldn't make much difference to the Navy, anyway. I can still carry out research work for them."

"Huh?" Kinrick looked surprised.

What had he done now? Hellinger raised a weary hand and brushed it across dry lips. Perhaps Velos had not been on research work lately, perhaps anything. He sat up suddenly, bringing his wounded arm up with the bedclothes hanging from it.

"I can still do my job. And the quicker I'm out of this ward the better. How long did the doc say, Kin?"

"Couple of weeks. Quick setting and heat therapy will have you back at the shop in too quick a time for you, you lazy warthog. What's hit you all of a sudden?"

So that was it. Hellinger relaxed, crinkles appearing at the corners of his eyes. Velos had been a routine worker, a clock watcher.

"I want to do something to help smack those Earthmen down. They shot me up, don't forget that. What happened to them?" He tried to keep the eagerness out of his voice.

"We killed most of them. Don't let it worry you." Kinrick's tones were casual.

"I won't," said Hellinger. He made his mind a blank, refused to let it dwell on the sacrificed men, offered up so that he could worm his way into the secret weapon shop, sabotage the invention that could win the war for Pallas. And time was wasting. Whilst he lay here, unable to work, to see what was happening, the secret weapon was nearing completion, might well be finished before he even had the chance of one crack at it.

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Kinrick rose and Hellinger had a chance of a closer look at the Palladian's face as it was touched by a finger of sunlight from the high window. These are the men we fight, his mind whispered, these are our enemies.

The Palladian's face was made up in the height of fashion, lip rouge deftly applied, eyebrows plucked, mascara shadowing beneath. Hellinger repressed a shudder. The knowledge that he was similarly painted was no comfort. Only fighting men were allowed the use of cosmetics on Pallas, their women remaining natural and wan. Hellinger had had to admit, when he had been treated in Facial, that it was a logical step, miming nature.

The door opened, two orderlies pushing a bed-trolley came in, transferred Hellinger expertly and wheeled him down disinfected corridors, blinking his eyes in the light glare.

He felt too weak to enquire their destination. Let events transpire as they would. So far he felt secure ; having fooled one of Velos' closest friends he felt sure of deceiving anyone else. The trolley was wheeled into a white, sheer walled room. Hellinger felt the prick of a needle, had time to recognise the characteristic bite of a pre-anaesthetic injection and then went under a long wave of blackness.

Inside the two weeks prophesied by Kinrick, Hellinger was up and cautiously exploring his new environment, taking each step from a sound knowledge of what had gone before, taking no chances whatsoever.

He accompanied Kinrick into the secret weapon shop, his arm in a light holding sling. Heavily armed guards sprang to attention, swung huge thick doors aside, waited alertly until the doors clashed behind the two captains. Hellinger repressed a long whistle of amazement.

The shop was huge, the central arch alive with dust motes dancing in sunlight, the walls curving down, picked out by the blaze of artificial light. Thousands of technicians scurried underfoot, working at top pressure, seeming to the watching Earthman to be possessed by driving devils.

In the centre of the floor lay a slim, small torpedo shape, lost in the massive surroundings.

As they approached, skirting huge machines and stepping high over snaking cables, Hellinger tried to visualise the new ship, the vaunted secret weapon that would shoot Earth ships out of sub-space like clay pigeons.

Then, as they ducked under a travelling crane passing like a bat above them, Hellinger was profoundly grateful for the hypno treatment he had received on earth. If he had merely learned the Palladian language nothing could have stopped him shrieking his agony in

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English as the pains clutched at his mending arm. His shout of pure anguish echoed sullenly in the hollow shed, bringing curious faces swivelling in his direction.

" It's all right, Kin," he panted. " Just a touch of the screws."

The shock of it reminded him that he had been amazingly free of pains lately. That had been the first attack since coming out of hospital. He shook his head.

" Back to hospital today for you," said Kinrick.

The Palladian captain hustled Hellinger out of the weapon shop, saw him into the hospital where he was again wheeled into the white room and put under an anaesthetic.

With his arm completely knitted, feeling better than he had since that evening under the Venusian trees, Hellinger went with Kinrick again to the slim cigar-shape.

He looked about with eyes alert, ready to take advantage of the first opportunity. Anything would do. A day's work on the secret ship would reveal his deficiency of knowledge, he had to strike before he was discovered. Afterwards—well, he had nothing to live for any longer.

The metal skin of the little ship was smooth and cool under his questing fingers. Hellinger peered into the hatch, observed the mass of dials and controls grouped before a deep, luxuriously upholstered couch. He turned his head, one arm braced against the hull.

" I see they still intend her to be a single-place job, Kin."

" Of course. We will manufacture these ships by the thousand, you know the production potential that can be thrown into the work once the prototype has been approved. Those great, insolent Earth ships will be blown apart for all their strength once these beauties pounce upon them. One man will be enough. Especially if he's a Palladian."

" I'm sure," Hellinger said, mind numb.

He could visualise thousands of these little ships, appearing from nowhere about a giant Earth battleship, striking and disappearing. The war would be over for Earth and the Solar Federation. He had to find some way to sabotage, to destroy completely, this ship. He lowered himself into the seat, trying to imprint on his mind the various controls, finally coming to the realisation that he could never just pick up that information.

The couch was soft, his body was tired. Hellinger lay back and closed his eyes, seeing an image of Sue dancing before him. She was gone forever, she was his old, happy life. And now he was planning the most destructive way he could lay down his life, planning, the most spectacular death he could devise for himself.

Hellinger gave a dry little chuckle that was more a sob.

Kinrick touched him on the shoulder.

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" I understand, Velos, old man," his voice came to Hellinger from miles away. " You wish for the honour that we all crave. General Cardelos has expressed a desire to see you as soon as you are fit."

Hellinger's eyes snapped open, he gripped the arm rest with crackling

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General Cardelos rose as Hellinger entered, extended a yellow clad arm towards a metal chair. His bald head was tastefully decorated with red and green lozenges, his face made up with expert precision.

"Sit down, Captain. The doctors tell me you are fit again?"

"Yes, sir."

Hellinger sat in the chair, forced himself to relax, act normally. He found a thankful prayer that he was painted like a woman, the make-up helped to cover the emotions that had been so rigorously suppressed.

"They tell me also, Captain, that you have contracted the Solarian sickness." Hellinger half rose and the puffy General held up a hand. Rings glinted from stubby fingers. "All right, Captain. Hows and why don't matter. To put the point bluntly, are you prepared to volunteer for a mission, dangerous to the utmost. It may, if things do not turn out as we expect, result in your death," he finished levelly.

Hellinger held back a laugh. Everybody had the same nice idea. He was as good as a dead man, so he should have no fear, no horror of the black beyond.

"I am ready, sir," he said, gravely.

"Good. I knew you would be. I want you to familiarise yourself with the controls of the *Hornet Mark I.* That is the provisional name. The machine is finished, it needs now the final test, on which all our work will hang."

Hellinger could feel no emotion at all. He had lost, then. Earth would now go down before the onslaught of Pallas; with the finished Hornet had gone his last chance of sabotage. Cranky and unpredictable though the little ship might prove, he had the conviction that she would live up to her designer's hopes.

The metal chair cut into him, he shifted position and winced as a mild stab of pain flowed across his legs. The attacks had been growing weaker lately, the disease must be entering its dormant state. It was useless to think of a cure, hopeless to dream of returning to Sue and the kids, of going home to Earth.

The General was speaking, his words portentous, paving the way for the final overthrow of Earth.

"When you know the ship thoroughly—not before, mind—you will take her up for a short trial run. I may tell you in confidence that the Government are looking very much askance at the tremendous expenditure that has gone into producing what they contemptuously dismiss as a gnat of a ship. We have to make sure that nothing can go wrong. The ship must prove herself on the trial [illegible] Government will turn over to the [illegible]

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greatest sabotage conceivable. He could do it yet. Hellinger was almost unaware of the pain that bit into his side.

In the following days Hellinger studied the little ship. *Hornet Mark I* they had called her. Well, her sting would never be used against ships of Earth. He formed a link, a mental bond with the ship, impressing all her controls on his mind, ignoring the technical details. He knew that they were beyond his comprehension. It was no use to think he could steal the plans and escape to Earth. That was moonshine. He had a job to do, and he knew that his life was the price.

He could even feel sorry for the little fluffy haired thing back on Venus. He'd given no thought to the agony of shocked emotions she must have been through. Through that strange linkage of events had come this moment, when he could strike the decisive blow for the Solar Federation, at one stroke free the path to the stars from Palladian aggrandisement, give the Galaxy to man.

Hellinger banged the cockpit canopy back and stared up at the technician's white face peering short-sightedly down. The unpainted, wrinkled face looked unpleasant to Hellinger, he must be absorbing the Palladian military mind, he'd grown quite accustomed to his morning painting.

"Got it all settled in your mind, Captain?" the technician said.

"I think so," Hellinger replied, fondling the power control.

"Everything will depend on the instant of take-off. You must ensure a smooth, even flow of power to the drive. These meters here will give you all the information you require."

They'll tell the right instant to smash the whole thing, Hellinger said to himself grimly. The power supply will be so ragged the whole Hornet will disintegrate instantaneously. Then what'll your clever technicians say?

He laughed, and the old technician favoured him with a sour glare.

"Mind you keep that power clean," he grunted.

Hellinger pushed himself up from the padded couch, swung a leg over the side. Hoisting himself over, he hung for an instant, then dropped to the concrete floor.

A red hot skewer pierced his ankle, he let out a single yelp of agony, then crashed full length to the floor, feeling his weight crunch down on his ribs. Dust stung his nostrils and brought tears to his eyes.

Hands pulled him up, turned him over. He felt fingers loosing his boot, then pain shot along his leg.

"Hold still, Captain, you've twisted your ankle."

Hellinger's mind raced. The screws in his ankle were from the displaced tendon, or whatever he had done to his foot. But his whole body felt compact, alive, free from the nagging ache that had followed him since Venus.

He knew that such a fall would have prostrated him with agony only a few weeks earlier. The disease must have gone into its latent period.

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Under heat therapy his ankle was as good as ever the next morning, and he inspected shiny bruises along his side with an awe that they did not pain. General Cardelos checked with him that he was fit, then told him, quite matter-of-factly : " Today's the day, Captain."

Today ! Hellinger buttoned on his yellow uniform, painted his face with exaggerated care. This was his last day of life. The conception brought no understandable feeling. He felt too small to have any ideas of ultimate vindication, that by this act of self-sacrifice he was purging himself of his past folly. He had no illusions that he was a hero. There was no great uplifting exhilaration of atonement.

He just had a job to do.

The *Hornet* had been transferred outside the huge shed, stood sleek and shining in the early rays of the sun. A good breakfast warming him, Hellinger stood with General Cardelos, watching the final adjustments.

He saw the blue grass, shining with early morning dew, just as it must have glinted a million times on green Earth. Palladian birds chirped and twittered, as tuneful as Earthly larks, clouds drifted unhurriedly. This was not Earth, yet he had no wish to leave it, no desire to plunge himself into oblivion by a cold act of self will.

Hellinger shook himself, turned as Captain Kinrick came up, saluting General Cardelos.

" Good news, Velos," Kinrick said, his painted face smiling. " I just checked with the hospital. All the work they've put in on you over the past two weeks has proved worthwhile."

" I don't follow," said Hellinger, not really caring. " They patched up my arm long ago, and the ankle was nothing."

" Oh, not that," Kinrick was bubbling with good news. " You didn't really think that all those sessions you spent in the theatre were for the arm, surely ? "

" I—really, I'm not sure——"

A ghastly thought was fighting in Hellinger's mind. He had been in the hospital overlong for a simple fracture. Surely, they hadn't——

" Why, man," boomed Cardelos, puffy face a painted mask, " The doctors have cured you. You're completely free of the Solarian sickness ! "

That was a stark impossibility. No-one had ever been cured of the Venusian sickness. It was like no known Earthly disease, you just didn't recover. Then a thought drove out all that specious argument.

Sue !

He could go back. Back to the kids, to Earth. Back to the arms of Sue. He was clean again.

Cardelos was speaking again, standing before the final secret weapon, on blue grass under the Palladian sun. " We kept it from you, boy. Didn't want to give you false hope. The doctors say you're the first

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to be cured, they've worked up a new technique. But we couldn't be sure."

"Now," said Kinrick fervently, "this means you've just got to make a success of the Hornet. What a day this will be. You've everything to live for!"

Sure, everything to live for. But a whole heap more to die for. There were the three men in the Earth ship that didn't make it from Pallas. There was Jarvis. There were all the youngsters, trim in their Solar black, eager in Earth battleships.

There was just Earth.

Hellinger moved, eyes blind, across the apron, climbed into the *Hornet*. His limbs felt light, as though they belonged to someone else. He was cured. He could bring the ship back safely, contact the underground, be on Earth again. He pulled the canopy forward, cutting off the voices of those outside.

His screen lit up at the touch of a switch, the control officer in the tower spoke through his earphones.

"All set, Hornet I?"

Hellinger became aware of new equipment in the cramped cockpit. There were mechanisms, dials, meters, that he had not seen before. In sudden panic he clawed the canopy back, leaned over to shout at Cardelos.

"What's all this new junk in here?"

"That? Oh, we put telemetering equipment in. Wanted to check that the power was kept level, just in case you blow up. We can observe all that happens from the tower. But you won't," Cardelos' bull voice was emphatic. "You'll be all right."

Yes, he'd be all right. He could come back to Pallas IV. with this *Hornet*, ride her safely in, show the enemy that their new weapon was a certainty, a killer.

And he could come back, and return to Earth, and Sue. Images rose in his mind, whispered to him. That night at Sorrento, with the moon and the waves. Sue and he—— Hellinger gave an inarticulate growl, slammed the canopy shut, shouted violently into his microphone.

"Tower! This is Hornet I. All ready for take off!"

"Tower to Hornet I. All ready. Proceed as instructed."

Proceed as instructed. As instructed by Cardelos? As instructed by the old admiral back on Earth? Proceed to kill himself? Proceed to return to Sue?

He looked through the canopy, round at the bright morning, seeing the procession of such lovely spacious days coming on Earth. The telemetering equipment they had put in last night gave him no chance of playing with the power supply. He was a clean man. Nothing stood in his way now, the deception that had worked so far in placing him in this cockpit would hold out until he had left Pallas for good.

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It would be useless to alter the power supply regardless. Cardelos would wonder why, but the fact of the *Hornet*'s destruction could be pinned to the man, and not the machine. He had to destroy the ship and make the Palladians believe that the ship was faulty. Nothing less would do.

All the organisation that had placed him here, in this cockpit, could take him out, return him to Earth. The thoughts whispered in his mind. Perhaps he could sabotage the ship later. That was moonshine, too. Once the ship had proved herself, production would commence.

The *Hornet* had to be destroyed here and now.

Hellinger looked carefully at the telemetering equipment. He had not observed it properly before, his emotions had prevented fine abstract assessment. The job had been a rushed one, wires had been hastily soldered on, power coming from a compact battery. There was just a chance.

" Tower to Hornet I ! Are you ready ? "

" Hornet to Tower. Ready."

They were growing impatient. Hellinger traced a lead with steady finger, putting all his ice cold nerve into the act, throwing out of his fevered brain thoughts of Earth and Sue. If he could just disconnect the battery wire here, reconnect there, that would maintain a steady impulse on the telemetering output, but shunt out of circuit the actual recordings on the main power source.

He ripped off the soldered wire, held it with his bare finger against the input terminal. Current surged up his arm, not powerfully, a mild electric shock. Its agony was a clean, purifying pain, unlike the other pains he had endured.

Hellinger thrust the main power lever open, sent the *Hornet* skywards in one blinding arc of speed.

" Hornet to Tower," he gasped. " Power level, everything functioning correctly."

Commander Mark Hellinger juggled the power source fractionally.

The *Hornet I* vapourised instantaneously, disappearing completely in the morning Palladian sky.

. . . had in Captain Velos, I am forced reluctantly to the conclusion that there was a serious defect in the Hornet *type. All work has therefore been stopped on project* Earth Blast *and I await your orders.*

I would like to make the strongest recommendations in the case of Captain Velos, a most devoted officer, and stress that he laid down his life willingly in order that his own race might inherit the Galaxy.

Cardelos, General, Palladian Space Force.

Kenneth Bulmer.

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The March 1st thermo-nuclear explosion off Bikini in the Pacific produced radiation casualties amongst Japanese fishermen over 70 miles away from the scene of the experiment. John Newman's interesting article this month discusses radiation detection and identification—vitally essential in the event of atomic war.

RADIAC

By John Newman

Atomic warfare will not be a pleasant thing. To survivors in an atom bombed or dusted city it will be hellish. Dazed by the shock, many of them dying of invisible radiation poisoning, only fast, decisive action and treatment could help to save them. It may seem pessimistic to look ahead to such a future yet the problems of unleashed nuclear weapons are already being solved by a new science, RADIAC.

RADIAC, which is derived from the initial letters of radio-activity detection, identification and computation, is one of the sciences created by necessity. It was evolved because many of the destructive potentialities of atomic warfare are invisible to our senses and we must have instruments to detect them. Of course, ever since the discovery of natural radio-activity at the end of the last century there have been instruments designed to detect and measure high energy radiation; the trouble is that most of this apparatus is either too insensitive or too heavy and delicate for work outside the ideal conditions of laboratories.

When artificial radio-active materials came into use it was imperative that light, sturdy and, for some work, accurate instruments should be available for both experimental and defence monitoring. The emphasis is on lightness and dependability and much of the development work on RADIAC instruments was carried out by the electronics division at Harwell.

Radio-activity and radiation are not simple subjects. Much of our knowledge is empirical and we know little about the actual mechanisms involved. So far we have only scratched the surface of the complex science of nuclear and radiation physics, the details of which will take many years to elucidate and understand.

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Present atomic theory treats the atom as a central nucleus containing only massive neutrons and protons which are surrounded by electrons in orbitals. These electrons have very little mass and are negatively charged, screening the central nucleus.

The protons and neutrons are bound together by mesonic forces, the nature of which is not known, and the protons, unlike the neutral neutrons, are electrically positively charged. This positive charge is normally exactly balanced by the negative charge of the surrounding electrons to make the atom electrically neutral. The chemical characteristics of an atom depend on the number of electrons and protons in it but the nuclear stability depends on the number of protons and neutrons present.

The number of neutrons present in a nucleus can vary without changing the chemical properties, thus giving rise to isotopes. These are different forms of an element and they can either be stable or radio-active. Every element has at least one radio-active isotope although many of them can only be obtained by atomic transmutation.

A radio-active atom has an unstable nucleus and sooner or later breaks down by emitting radiation, of which there are several types. Radio-activity can be induced in stable atoms by bombarding them with radiation but once an atom has been made radio-active we have no way of preventing it disintegrating. Nor can we tell exactly when a particular atom is going to disintegrate; only by statistically considering millions of atoms can we make any predictions as to the number of atoms which are going to break down in a given time. The time taken for half the atoms of any radio-active element to decompose is the half life of the element and is taken as a measure of its stability. This, a constant for each isotope, can range from a fraction of a second to millions of years.

The products of decomposition of a radio-active atom may themselves be unstable and decay giving off more radiation, and so on until a stable structure is reached.

When high energy radiations were first discovered the workers did not know exactly what they were dealing with so they called them X-rays, meaning unknown rays, and alpha, beta and gamma rays, the A, B, C of the Greek alphabet. Later naming was a little more systematic, for example neutrons are neutral particles and positrons are positively charged electrons. Early workers distinguished the types of radiation by their widely varying penetrating powers and the direction in which charged particles were bent in strong magnetic fields.

It is now known that alpha ' rays ' are really fast moving particles made up of two protons and two neutrons. Even though their velocity is about a tenth that of light they are the least penetrating of nuclear radiation, being stopped by very thin aluminium foil or three inches of air. Because of their large size and double electrical charge they

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are easily stopped, although their large mass and speed make them extremely destructive when they do enter the body. If an alpha particle is not absorbed by a nucleus during its collisions, as when nitrogen absorbs an alpha particle to form an isotope of oxygen, it can be slowed down until it is able to collect two electrons and become an atom of helium, a completely inert gas. Most radio-active materials which give off alpha particles also evolve other radiations, the notable exception being polonium which only forms alpha particles as it decays to give stable lead.

Beta ' rays ' are very fast electrons which, because of their higher velocities (near that of light), and smaller size and mass, are more penetrating than alpha particles. Even so they are stopped by a tenth of an inch of sheet aluminium. Beta particles are formed in the nucleus, which has a positive charge, by the change of a neutron into a proton plus an electron which is shot out at great speed. In this way the number of protons in the nucleus is increased by one and the element formed is a higher one than its parent. Some radio-active isotopes emit only beta particles and are the most insidious of the weapons of radiological warfare, as they cannot be detected more than a few feet away. It is probable that beta emitters would be used to contaminate water supplies.

Gamma ' rays ' are electromagnetic waves similar to light in structure but with very much shorter wavelengths and travelling at the speed of light. They are one of the most penetrating forms of radiation known and are only easily absorbed by very dense material such as lead. When absorbed they create secondary radiation, particularly beta particles, and cause many nuclear transformations. Gamma rays are formed in great amounts in an atomic explosion and most of the radiation damage at the moment of the flash is due to them.

Neutrons, having no electrical charge, are unaffected by electrical fields and can easily penetrate the screen of electrons around a nucleus and so be absorbed. Whether or not this will cause disintegration of the atom depends upon the type of atom involved and the speed of the neutron. Atomic piles produce great quantities of neutrons and these can be used for ' cooking ' atoms. For example tritium, the isotope of hydrogen used in the hydrogen bomb, can be formed by the effect of neutrons on lithium or boron. Neutron emitters are not likely to be of use in radiological warfare.

Whilst many types of radiation are likely to be met they all have one property in common, they cause ionisation. Because of their high energy they damage the atoms and molecules they hit. Electrons are smashed out of their orbitals leaving positively charged atoms, known as ions. Molecules are split into simpler groups of atoms which may be negatively or positively charged and the regular order of atoms in crystals disarranged. This formation of electrically charged groups is

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known as ionisation and is the cause of the damage to living creatures. It also causes genetic mutations by damage of the chromosones, which break into small chains and then recombine at random in different orders.

At the same time ionisation allows us to detect and estimate the radiation, for ionised materials have many abnormal properties which can be quantitatively measured. An ionised gas is a conductor of electricity, ionised silver atoms in photographic film act as if the atoms had been exposed to light and some materials change colour after being irradiated.

The effects of radiation depend upon the intensity and the time of exposure; the effect of a small intensity over a long period may be far more harmful than a single short exposure to intense radiation. Damage is accumulative so several small doses can add up to injurious amounts

The most insidious form of radiation poisoning occurs when radio-active isotopes are absorbed by breathing or from food or water, many of the isotopes being selectively absorbed by the body. Even tiny amounts in water can thus be fatal and the activity of food and water must be accurately monitored. It is this which makes alpha and beta particle emitters so dangerous; normally they are stopped by a few inches of air but in the body there is nothing to shield the tissue from them and all their energy is intimately absorbed.

The unit of radiation is the röntgen, a measure of the ionising ability of gamma rays, and most instruments are calibrated in terms of them. 0.5 röntgens a week is considered a safe maximum, although a single dose of 25 röntgens has little effect if not repeated within a few months. 75 röntgens can be withstood without much permanent injury but above this chances of death increase rapidly. A third of those exposed to 300 röntgens die whilst a single dose of 800 röntgens is almost certainly fatal. Although we are continually exposed to radiation from cosmic rays and the natural radio-activity of the earth the intensity is very small, about 0.5 per cent. of what is considered a safe level.

Radiation monitors fall into two main classes, dose-meters, which measure the total amount of radiation received over a fairly long period of time, and contamination meters, which measure the rate at which radiation is falling upon the meter. They must measure single doses from 800 röntgens (with little accuracy), down to one thousandth of a röntgen per hour (with greater accuracy), from traces of radio-active materials in air or water. The large single doses will be gamma rays but the instruments must distinguish between these and alpha and beta particles at low concentrations. Obviously a single instrument cannot cover all these ranges so several types must be used.

The simplest and cheapest dose-meter is the film badge, a piece of X-ray film protected from light by black paper. It can be made to cover the range 0 - 800 röntgens and is small enough to carry clipped

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in a pocket. By covering parts of the film with lead and cadmium foil it can distinguish between beta particles, gamma rays and slow neutrons. It can be quickly mass produced and will be as standard a piece of equipment in the next war as the gas mask was in the last. It has two disadvantages, it cannot be re-used and it must be developed and fixed in the dark, like an ordinary film, before the density of the blackening can be compared with standards. It is possible that film badges can be made in units containing the developer and fixer in individual capsules, which are broken and the blackening stabilised before the film is exposed to light. This would remove the possibility of civil defence authorities being unable to handle the vast number of films expected from an atom bombed city.

Another way to overcome this problem is to use a direct reading instrument which, although more expensive, could be used time and time again. The old-fashioned gold leaf electroscope principle has been used in a very useful instrument, about the size of a fountain pen, which can be carried in a pocket. This utilises the fact that radiation causes air to become a conductor of electricity and the rate at which the charge leaks away from a condenser is proportional to the amount of radiation falling upon it. A gold-plated quartz fibre is used to measure the charge and its position can be quickly read against a scale. The total change in the potential of the condenser is a measure of the radiation dose. Unfortunately there is a slight natural leakage, about two per cent. per day, so the instrument must be continually serviced.

A more accurate instrument for rescue workers entering contaminated areas is made by replacing the quartz fibre by a valve circuit. This increases the weight of the instrument and it must be operated by batteries but, even so, it can be made light enough to carry in one hand. The main advantage of this type of instrument is that the dose can be directly read off an electrical meter which can be illuminated at night.

The most useful contamination meter for measuring dosage rates is the Geiger counter. This is a combined Geiger-Muller tube and an electronic counter. The tube contains gas at a low pressure with a central charged wire insulated from the walls. When ionising radiation enters the tube the ions formed enable a small electrical discharge to pass between the wire and the walls and a small current flows. This is amplified and counted by a valve circuit and gives an estimate of the number of ions formed in the tube, whatever type of radiation causes them. As only about one per cent. of the incident gamma radiation is counted the tube has to be calibrated before use. By using screens across the end of the tube to keep out alpha and beta particles the instrument measures only gamma radiation but, by using a suitable tube, alpha and beta particles can be counted. A Geiger counter is

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not a small instrument and requires a power supply, usually dry batteries when it needs to be portable.

Other methods which could be used include the electronic counting of the scintillations caused by alpha particles and gamma rays in certain crystals, the colouring of alkali halide crystals by gamma radiation, the fluorescence of phosphate glass under ultra-violet light after irradiation and the estimation, by an acid-alkali indicator, of the amount of acid formed in a solution of chloroform in water by gamma rays.

In the pre-civilisation era survival depended upon highly developed natural senses and the presence of a handy club. It looks as if life in the post-civilisation era is going to depend upon a reliable Geiger counter and a handy automatic rifle, which can always be used as a club.

John Newman.

The Literary Line-Up

Following the publication of his story in this issue James White has the lead novelette in July, a neat little problem involving an accident upon a space station, two doctors and insufficient lifeboats to get the injured away—the trajectory really becomes a "Starvation Orbit." E. R. James provides "Man On The Ceiling," another story of Derrick Crocker the man with the mechanical limbs, and there is "Ship From The Stars" by Peter Hawkins, one of the best "monster" stories we have read in a long time.

Shorter stories are by Lan Wright, Francis G. Rayer and Dave Gardner, plus another fascinating article by John Newman on "Semi-Conductors."

There was no doubt which was the most popular story in the April issue—the serial polled twice as many votes as its nearest competitor :

1.	Takeoff (Part 1)	Cyril Kornbluth.
2.	Relay Race	J. T. McIntosh.
3.	Opposite Numbers	John Wyndham.
4.	The Sentinel	Arthur C. Clarke.
5.	Museum Piece	John Christopher.
6.	Only An Echo	Alan Barclay.

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Presupposing the Earth was no longer a fit place to live on and the only spaceship was ready to leave on a one-way trip to Mars, it would be logical for the best technological brains to be included in the personnel. The best of Earth's sciences would then survive elsewhere. And the people left behind . . . ?

ESCAPE ROUTE

By John Christopher

The moon was full, but when the low, scudding clouds came over it the night was very dark. Cortwright, walking along the top of the stockade, had to strain his eyes to look for signs of movement in the country round about. He was glad when he heard Samoka, his relief, making his way towards him. Samoka shuddered.

"Cold."

"Brisk. You'll warm up when you've walked around a bit."

Samoka took the portable hooter from Cortwright and checked it on low. Its harsh voice boomed out gently and he cut it off again.

"Anything doing?" he asked.

"Not an Indian."

"Too quiet," Samoka said. "I don't like it to be so quiet. There's been nothing doing for over a week. My guess is that something big's brewing."

Cortwright said: "If they hold it off another fortnight they'll find an empty nest."

Samoka said curiously: "As soon as that? Nobody tells us anything. They've ironed out the trouble in those rear jets?"

"That row this morning," Cortwright said, "was us checking the jets. All the jets. And all passed. It's straight loading from now on."

Samoka looked up to where the moon was emerging from a dark sea of cloud.

"Right up there and further. Joe, you were on the Revill expedition before the war. What's it like?"

"Mars? Dry, cold, not enough air to breathe without the auxiliaries. Quite frankly, it only has one advantage that I know of."

"Which is?"

Cortwright gestured out towards the land beyond the stockade.

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" It's forty million miles from this lot. And that's a minimum distance."

" Yes. What do you reckon will become of them?"

" The Indians? They'll carry on—fighting their little fights and setting up their little kingdoms, with each generation regressing just a fraction more towards barbarism. Already they've given up books. In five hundred years' time they will be grunting at each other. By that time we shall have Mars blossoming like a garden. To hell with them."

Samoka said uneasily: " I don't know. It's tough in a way. They couldn't help the war. Not all of them could, at any rate."

" They got what they wanted," Cortwright said. " They had their chance. Enough people told them that another war would finish civilization. They wanted their war, and they got it."

" Most of them didn't have any say."

" You ever see sheep going to a slaughter-house? That's what happens to sheep; personally I blame them for it. They had a lot of fun baaing together. What can we do about it, anyway? We can't take them all to Mars."

" No. We can't."

Cortwright laughed. " I should get to bed. I don't object to philosophical conversation except when it loses me my sleep. But don't be afraid to wake me if you hear anything. Anything. I'd rather be roused for a wild goat than risk things at this stage. Coffee in the flask. Night, Ben."

" Night, Joe."

The attack did not come that night or the night after. The night after that, the waning moon was altogether blanketed by cloud. At three a.m. the camp was awakened by the blare of the hooter, and tumbled out to action stations. The Indians—that was the term by which all those outside the stockade were known in the camp—had managed to get through two lots of wire before tripping the alarm on the innermost wire.

Things were in the balance for perhaps half an hour—the Indians broke through at one point and made an irruption into the camp itself. The turning point did not come until Parker managed to get the searchlights round to bear on the melee. There was hard fighting still after that, but the superior discipline of the defenders told in the end. By four o'clock they had pulled out. Three of the defenders were wounded but none of them very seriously. The Indians left one of their number dead. He was a barrel-chested hairy man of perhaps forty-five. They also left a prisoner.

Cortwright had him pinioned. They dragged him through to the assembly tent in the centre of the camp and left him tied up while the damage to the stockade was made good and the outlying alarm wires repaired. Then they went back to have a closer look at him.

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He was a young man, no more than twenty-five. He would have been handsome but for the broken nose Cortwright had given him in the course of their struggle together. He was dressed, as was usual with the Indians, in all kinds of rags, and he wasn't very clean.

Parker, balancing on his short bandy legs, surveyed him appraisingly. "Fair specimen." He looked at the dozen or so men surrounding him. "Any suggestions?"

Cortwright said: "We don't need suggestions. We had all this out a long time ago. Holding a prisoner is a risk. Letting a prisoner go, once he's had a chance of seeing the inside of the stockade—particularly of seeing how few of us there are to hold the lines—would be even worse." He glanced at the prisoner. "Don't worry, son. We won't hurt you any more than possible. It will be quick."

Simon, an oldish man indispensable by reason of his ability with jets, said slowly:

"Yes, we agreed. In theory. But this is the fact; this is murder."

Parker spoke softly: "Murder presupposes a certain stable condition of society. Between us and the Indians the word has no meaning. From the instant this ship blasts off every other inhabitant of the planet might as well not exist—for us they cease to exist. Our attitude towards them is neutral. The only question is whether this Indian is a danger to the success of our plans or not."

"Exactly," Cortwright said. "And it is irrelevant whether the danger is 99 per cent or one per cent. Either way the only safe thing to do is eliminate him."

Samoka had a jagged gash under his right ear. He was patting it with a piece of rag.

He said: "I don't think it's even one per cent." He looked at Parker. "How long now?"

Parker said: "No secret. A week."

Samoka said: "I know a few rope tricks. I'll guarantee to rope him the way he won't get loose. On the big day, we can turn him out. There doesn't need to be any difficulty about this."

Parker said: "I only run this expedition. The rest of you people make the decision. Well, what do we do with the Indian?"

Reprieve had it, by a fair majority. Samoka went to work on the ropes; the others began to drift away.

Cortwright said: "You asked for it—all of you. But I stand to get it along with you."

He went off morosely and Parker watched him go. He said to Samoka: "Keep an eye on Cortwright since you're interested in the Indian's health. It might suffer."

A female element was, of course, necessary for man's new start on Mars. There were actually fifteen women to the eighteen men of the party, but only thirteen of them were of child-bearing age. The

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exceptions were Parker's wife, who was forty-six, and his ten-year old daughter. Parker was the only one of the men who had had a family and been able to keep it intact during the war and the succeeding period of break-down. Reasonably intact, anyway; his son had not come back from Asia. The remaining women had been picked for the expedition for specifically utilitarian reasons. All but a couple had by now paired off with men. That left only six men unattached. Three of these were uninterested; the other three had asked permission to find a woman among the Indians, but Parker had vetoed it. Quite apart from anything else, there was the problem of mass. Even one extra woman would mean leaving out at least a hundred pounds of invaluable material.

Parker's wife, Helen, was proud of the fact that, as a field mineralogist, she was able to justify her place in the expedition in her own right, and as the hours for which they were to remain on Earth skimmed away she was as busy as the rest in checking equipment and making final preparations. Their daughter, Esme, was the odd person out. Parker gave her the job of looking after the prisoner, adding the precaution of having Samoka check his bonds every couple of hours.

Esme was a small yellow-haired girl, who gave the impression of being younger than she actually was. She was intelligent for her age, and rather self-conscious. She took her job as a guard very seriously, and spent the first day glowering importantly at the prisoner. She yielded him up to the care of the night guard with some reluctance, and was back at her post very early the next morning.

They got talking during that second day. It started as an ordinary request for a drink of water. Esme held it for him. He raised his head from drinking.

"Thanks, Esme. That was good."

She said distantly: "You're not supposed to use my name."

"No? I'm Bob—Bob Lewin. I've got a sister around your age."

"You're not supposed to talk at all."

"Talking never did anyone any harm. That sister of mine—her name's Louella—she talks all day long."

Esme said: "I had a brother. His name was Dick."

"What happened?"

"He didn't come back."

"Tough. You reckon you're going to like it on Mars?"

She said warily: "You're not supposed to know we're going to Mars."

He grinned. "I've got big ears. Think they might take me along, if I asked nicely?"

She parroted the dictum she knew: "Everyone has got to be indispensable to the new colony. They are all very clever."

"You too?"

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"Not yet. But I will be."

"I can see that."

She thought things over for a little while. "Are you clever at anything?" she asked eventually.

He said seriously: "No. I don't think so."

"Then it wouldn't be any good, anyway—your wanting to come to Mars with us. The people here are the cleverest people in the world."

His voice was grim for a moment. "Yes. I know that, Esme." He smiled. "I was only joking. I don't really want to go to Mars."

She seized on the point acutely. "Then why did you try to break into the stockade the other night?"

"You forget," he said. "We aren't clever. We're the Indians. We just haven't got any sense."

She looked at him, distressed. "Why do you fight and such all the time? Even if you can't go to Mars, you don't have to fight each other."

He said softly, half to himself: "Someone sowed our fields—not with salt—that's old-fashioned—but with radioactivity. Someone painted our cities so that it's death to go within a mile of them. So we fight for the little that's left." He looked up. "You know what, Esme? My father's the chief in these parts. His territory runs as far as eighty miles to the north. I'll have quite a patch to take over from him some day—quite a patch of desert."

"Someone—you did those things yourselves."

"They told you that? They had it right, too. I was a tank-man. They had it right. Partly right."

"Are things still bad outside?"

"How long is it since you were outside the stockade?"

"Two years. Longer. It's taken a long time to build the spaceship."

"And now it's ready? Yes, it's bad outside. As bad as ever it was. People struggling to grow crops that don't grow; trying to remember how to build bricks without straw; and fighting each other for every little advantage, because people are like that."

Esme said: "I could ask Daddy—if you could come to Mars with us. He's in charge of the expedition, you know."

He smiled. "Don't bother, sis. He couldn't, even if he wanted to. And I wasn't kidding you when I said I didn't want to go to Mars. I'm the son of the local big chief, remember. I've got responsibilities here."

She said: "I am sorry—about things being the way they are."

"If you want to be happy on Mars," he said, "you'll have to grow out of that."

They talked for the rest of the day, and all through the next. They sat together in a still centre, surrounded by the stockade's whirlpool of activities. They talked more when people weren't noticing them

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than on the rare occasions when they were. They didn't speak to each other at all during Samoka's periodical checks on the ropes, which he loosened from time to time and then re-tied.

Samoka made his last check of the day, and Esme stayed on to hand the prisoner over to the night guard. It was Harris, one of the younger men. He threw a brief glance at the man huddled in his bonds, and began his slow patrol of the perimeter.

He was still patrolling twenty minutes later when he was hit on the side of the head with a piece of wood. The blow only partially stunned him. He staggered to his feet and sounded the hooter, but by that time the prisoner was over the stockade and already lost in the shadows beyond.

The camp roused to the alarm.

Cortwright said, with barely controlled fury:

" Forward, Houdini. Forward, the man who will guarantee to rope an Indian so he won't get loose."

Samoka said: " I don't understand. In the old days there weren't more than fifty people in the world who understood that knot. There can't be five now."

Harris, rubbing his head, said: " It doesn't matter if there's only two—one of them's the Indian. For God's sake, Ben, you and your Boy Scout tricks . . ."

Cortwright said to Harris: " As for you, I'm sorry it wasn't harder. Which way did you vote when I wanted to have him put down?" He turned savagely towards the rest of the assembly. " And the rest of you sentimentalists—I hope you are pleased enough now."

Parker said: " That will do, Joe. Let's not make too much of it. He got away and that's that. We blast off in four days, maybe three. I'm putting on a double night guard for that time." He grinned at Samoka. " Ben, there will have to be disciplinary action. You double with Bill Harris for the rest of to-night."

Cortwright said: " Doesn't anybody here get it? I tell you, the Indians hate our guts. They guessed what our project was a good time ago. Now they will know we're just about ready to go." He looked at them all in an angry appeal. " Let's put everything into it and get her lifted before to-morrow night. We can do it."

" You've got too much imagination, Joe," Parker said. " That Indian probably won't stop running for three days. And after five years I've no intention of jeopardizing everything by a last-minute rush. We'll lift on schedule, and not before."

Cortwright looked steadily at him for a moment.

He said: " All right. You're the boss. But I'm going to make that guard a treble. The jets were my job and the jets are ready. Until we blast I'm going to spend my nights on patrol, and get my sleep during the day. Any objection?"

" No objection," Parker said. " Bed for the rest of us."

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Old Simon was one of the two official guards on the last night, and had the sector with the controls for the alarm wires. He heard a noise from inside the camp, and turned to see Esme.

"What is it, Esme?" he asked her.

She said gravely: "I was restless. I just couldn't sleep. I thought I'd like to take a walk."

"Excited?" he said.

"I guess so. What time is it?"

"Nearly two." He gazed around. "It won't do you any harm to sniff the night air. You won't have it again."

"Do we have to go?"

"Why, yes. You know how it is. The whole world in chaos. I tell you, Esme, your father is a very remarkable man—to have conceived such an idea and to have carried it through. Just the business of finding the right people in a world of howling barbarians—that was enough by itself."

"And the Indians?"

"They'll have to look after themselves."

She turned and pointed along the perimeter of the stockade. "There! Something moved."

He went two or three yards to investigate. She was standing in the same position when he returned.

"Nothing," he said. "The light's bad; it plays tricks."

The waning moon dipped in and out of clouds.

"I suppose you're right," she said. "I think I'll go back to bed now."

He called after her: "Good night."

Half an hour later the Indians piled over the stockade in four different places. There was no resistance worth talking about, except for Cortwright who went down finally with half a dozen men clinging to him. None of the three men had had time to sound their hooters, or make any noise but a strangled squawk. The Indians moved in purposefully towards the tents and the spaceship. Then it was all over.

In the long line of trussed-up men, Parker found himself next to Simon, with Cortwright, badly battered and unconscious, beyond him.

"What happened," he asked.

Simon said: "I got a look at the control board while they were tying me up. The wires were cut."

Parker was very calm. "Yes?"

"I'm sorry—but Esme had been out there with me. She said she couldn't sleep. She distracted me for a few moments. That must have been enough."

Parker said: "That accounts for something else, too. The mysterious escape of our Indian." He raised himself with difficulty into a half-sitting position.

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"Esme!" he called.

She came obediently from one of the tents. Her father said:

"I suppose there wouldn't be any point in asking you to cut me loose as you did the Indian?"

"No, Pop." She gestured towards the figures of the attackers, now moving purposefully about the camp. "They wouldn't let me."

"Have you got any idea," he asked her, "of what you have done—and helped these people to do?"

One of the figures detached from the rest and came towards them. Esme turned as she was called.

"Bob!" she said gladly.

The ex-prisoner swung her up off her feet.

"Glad to see you again, sis. Everything O.K.?"

Parker said: "I hope you will have the decency to take her away, before . . ."

Bob said: "Before . . . ?"

"Before you dispose of us."

Bob laughed. He said to Esme: "Your father thinks we are going to slit his throat, and everyone else's."

She said: "Oh, no, Pop!"

Parker said to the young man: "Why have you hated us so much? Because we had found a way of getting out of the mess the world is now? Couldn't you just let us go? We weren't interfering with you. What's behind all the attacks—just envy?"

Bob didn't answer him. He pointed towards the spaceship, a spire resting on immense haunches in the first grey light of dawn.

"See those men?" he asked. "Know what they're doing?"

A dozen or more men were busy round the base of the rocket.

"You're not going to . . ." Parker began, and left the sentence unfinished.

"She's almost ready to blow," Bob said with satisfaction. "Only a rough job. Just enough to tip her over."

Parker said, in a choked voice: "There's five years' work in that ship. Five years' work and all the future of mankind."

"Mankind," Bob said softly. "Mankind—strictly excluding Indians."

The figures continued to move around the base of the ship. Then they began to troop away.

"Call them off!" Parker said. "We'll build another rocket. You can come with us."

Bob shook his head. "We don't want to go to Mars."

"Then what do you want?" Parker cried. "Do you only want to destroy? Hasn't there been enough destruction on this planet to satisfy you?"

Bob said: "When I was tied up, Esme said something to me. She

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said the people in this stockade were the cleverest on the planet. Was that right?"

Parker's eyes were fixed, in a kind of desperation, on the slender but immense needle of the spaceship.

He said: "No, of course not. But I picked the best people I could find for this—naturally, for a job of this kind."

"All the clever guys," Bob said. "The rest of us—the Indians—we've always been pretty stupid. We've fought and chiselled each other. But the clever guys gave us the chance to really do it brown. So we busted the world apart and here we are among the ruins. And at that point the clever guys decided to move out—to move out and start again. The only thing is: it isn't going to happen that way."

"Then what way?" Parker said. "Your way? Petty tribes, becoming petty kingdoms, even petty empires on a ruined planet—what use can we be to you?"

Bob leaned towards him. "I don't know. Maybe no use at all. But maybe a lot of use. All I know is this—that it took a lot to set that rocketship up there, ready to blast off to Mars. And you are going to put that much, and ten times that much, into putting things right here on Earth instead. All of you."

There was a rosy flare behind him, followed by the crump of explosive. The spaceship tilted, faster and faster, and shook the ground with its eventual impact.

He straightened up. "Now," he said, "we're all Indians." He caught hold of Esme and lifted her on to his shoulder.

"O.K., sis. Time to start working."

John Christopher.

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The first pilot to return from a trip into outer space will, to all intents and purposes, be treated as a guinea-pig. His private life will probably disintegrate under the constant scrutiny of scientists—that is unless he has been specially constituted for the job.

JERRY BUILT

By Dan Morgan

Illustrated by HUNTER

Despite the optimistic prophesies of mid-twentieth century scientists—standing as they did upon the threshold of the Atomic Age—it was not until well into the twenty-first century that man finally broke the shackles of gravity and ventured into Space. This may be considered fortunate, for whilst the Physicists sought feverishly to perfect an atomic propulsion unit capable of utilising non-radioactive fuels, the Biologists and Psychologists were at work upon what must in the last analysis form the yardstick of all achievement—the Human Element . . . .

LAURENCE SCRIBAN: The History of Space Travel. Galactic Press, 2250.

"There he is!" said the man with the stars of a General on his shoulders. The other two men, their eyes screwed up against the desert sun, squinted in the direction of his gesture. The speck of fire that was the exhaust of the rocket grew steadily larger as it fell.

"He's coming down too fast," said one of the men. "What's he trying to do, pile her up? Why doesn't he give her more boost?"

"Don't worry about him," said the General. "He knows what he's doing. If anybody can land her in one piece, he can."

"Thanks a lot," said the other cryptically.

"If you two want to stay out here and get fried, that's O.K. with me," said the third man. He turned and sprinted for the concrete blockhouse fifty yards behind him. The other two stood for a moment

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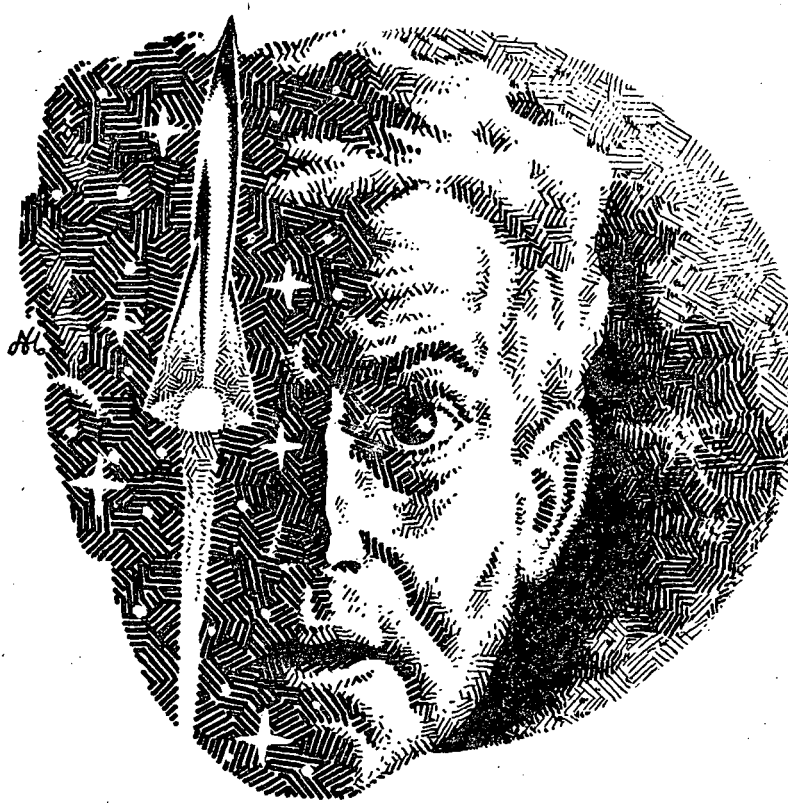

watching the rocket, which was descending with gradually decreasing speed, then followed him quickly.

Inside the blockhouse the General switched on the external video camera and the three continued to watch the descent of the rocket on the screen.

"I wonder what he found out there," said the General fingering his iron grey moustache. His expression was wistful. This was his baby, the thing he had been working for all his life. A man-carrying rocket which could defy the pull of Earth's gravity and return, making a powered landing. The first man-carrying ship to penetrate true space—the first space ship. And he would never be able to make the trip, on this or any other ship. The years that he had given to research and planning had left their legacy. His overtaxed heart and clogged old man's arteries would never survive the strains of a blast off.

"You'll find out soon, General," said the second man bitterly. "If he's in any shape to talk when he gets her down."

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" He'll talk all right," said the General, " His eyes have seen things that no man has ever seen, the realisation of a dream that has held man's imagination for centuries." The second man spat on the dusty floor of the blockhouse.

" And it had to be him," he said.

" Things could be different out there," said the third man. " Strange things could happen to a man. All our knowledge is dependent upon the instrument employed—the human brain. And the human brain has been conditioned solely to life upon Earth in a comparatively predictable environment."

" Don't go metaphysical on me, Warner," said the second man. " What the hell ? Space, Stars, the Moon . . . . We've seen them all before. We've been looking at them through telescopes for centuries. So you get a little closer. A few thousand miles. Then everything changes . . . Blooey ! Just like that. That's crazy talk, Warner. You'd better Psycho yourself sometime."

The General made a gesture of impatience. He did not take his eyes from the screen, the rocket was only fifty feet up now, balanced like a pencil upon a ravening column of atomic fire.

" He'll be down in a minute," he said. " Keep that fool quiet, Warner." Warner placed a steadying hand on the arm of the second man.

" Remember . . . you're Craven," he said.

Gerstner looked back at the rocket he had just left. Technicians were swarming round it, over it and inside it, working to extract the last ounce of information from its instruments and cameras. The truck made a mad swerve over a sand dune and almost overturned. He turned to the driver.

" I should have stopped up there," he said. " It was safer. What are you trying to do, break both our necks ? " The driver grinned.

" Don't worry, Mike," he said. " You stick to your rockets. I know what I'm doing with this baby. My orders are to get you down to the lab for a check-up, fast, and they want you in one piece."

Like all the other instruments, thought Gerstner. They want to tear me down and take me apart—to find out what happens to a man when he goes out there. What do they expect to find, anyway ? He leaned back in his seat and closed his eyes, trying to ignore the jolting of the truck. His mind reached back, recalling the vastness of space. The silence that was deafening, inconceivable, when he shut off the drive and coasted through the infinite blackness. Out there something happened to a man, he felt it. The human mind must either adapt or snap under the strain. And he was sane. But the change was there, somewhere in his brain a key had fitted into a lock. A key that would open the door to a new awareness which he could not as yet guess.

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He jerked his eyes open. That way lay madness. Was he insane, after all? Were these delusions of grandeur—some sort of a paranoid superman psychosis? Let the Medics and the Psychos find out about the key for themselves. If there was a key. All he wanted was to get the examination over, then he could go home to Kath. They could find another hero to take the next ship up. Maybe later, after he had time to think things over he would go back into space.

The truck jerked to a stop in front of a long, low concrete building.

"O.K., Mike," said the driver. "This is the end of the line. Some day I'll be able to tell my kids that I drove the first real space man."

"You'd better not tell them yet, Baker, or you'll spend the rest of your life in the pen for breaking Security Regulations," said a tall elderly man who was standing at the entrance.

"I was only fooling, Doc," said the driver. Gerstner hopped out of the truck and walked towards the Medic.

"I hope this isn't going to take long, Doctor Shulman," he said. "I've got a dinner date, and I haven't eaten for twenty-four hours." The Medic took him by the arm and led him into the building.

"You know darn well what acceleration does to the digestive tract," he said smiling. "But I promise we won't take any more of your time than is absolutely necessary."

The routine was familiar to Gerstner. X-Ray, Blood Count, Encephalograph and all the other paraphernalia of a complete examination. All the data to be meticulously recorded and checked with that obtained from him immediately prior to blast off.

"That will be all, for the time being," said Shulman, as Gerstner rose from a couch. "You'd better go through and see the General now. I expect the old boy is getting rather impatient. I had a job to convince him in the first place that my department must have you first."

"O.K.," said Gerstner. "Now for the inquisition. I'll be seeing you, Doc." He walked out into the corridor and along towards the office of the General. He paused for a moment outside the door. Would the Medics find some difference in their readings when they were compared with the previous ones. Some difference which would indicate the direction of the change his intuition told him had taken place. If so, he would probably be accused of concealing important data. He shrugged and opened the door.

Inside his mind, the key turned and another door opened.

The General was sitting at his desk facing the door. Gerstner looked into his pale blue eyes—and through them, into the mind that lay behind. For a long second he stood, not realising what was happening.

"*. . . . and here he is back . . . into space in the ship I built, the ship I should have piloted . . . . Why couldn't we have found the answer sooner?*

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. . . and then to send it into space with him, he's only a . . . " The confusion of the General's unspoken thoughts impinged upon Gerstner's reeling consciousness. He turned his eyes away for a moment, and the effect ceased. He realised now the extent of his new awareness and the thought was frightening.

" It's good to see you back," boomed the voice of the General. Gerstner looked at him again, this time carefully avoiding the eyes. The telepathic effect did not return. At least there was some measure of control—an involuntary telepath in a world of non-telepaths would be subjected to a barrage of thought impulses that would unbalance his mind in a very short period.

" This Security business is hell," continued the General, shaking his hand warmly. " Your flight marks an unparalleled step forward in the history of man, and we're not even allowed to let a whisper of it leak out." He motioned to the other two occupants of the room. " You'll be seeing a lot more of these two. This is Warner, Psycho Tech Department, assigned to the project. And that is Craven . . . he fits in on the Security side somewhere." Gerstner glanced at the men casually and nodded, avoiding their eyes.

" How did the ship behave ? " asked the General. " I know the instruments will give us all the data, but how did you feel handling her ? "

" Your scientists did their job well," said Gerstner. " She went like a bird. I blacked out after blast off, of course. But when I came out of that there was no difficulty in handling the ship at all. Outside the atmosphere that is. The landing was a bit sticky, she's not too stable if there's any wind about."

" You got her down, anyway," said the General. " That's the main thing. Next time we'll do better. As soon as the data is collated I mean to start on the plans for Mark II."

" If you want me to take that one up for you, you'd better give me a vacation first," said Gerstner smiling.

" Of course," said the General. " I'm afraid that in my enthusiasm I failed to realise what a strain you have been under. You'd better go home now, I can see you in a few days time." He hesitated. " . . . There's just one thing. I hope you won't mind, your wife has been informed already. Warner and Craven here are to come with you and stay close to you at all times."

" What on earth for ? " said Gerstner. He had been hoping to have some time alone with Kath, to forget about the project. And then there was this new telepathic gift which he did not dare to mention as yet, he had to think about that. " Don't you trust me, or something ? Do you think I'm going to walk out of here and start babbling to the news-tapes ? " The General moved forward hastily to placate him.

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"It's nothing like that, Mike," he said. "But you must realise that you're an important person. If our enemies found out just how important, they would stop at nothing to get hold of you. Even the tightest Security screen can have leaks, and we can't afford to take any chances."

"And what if I refuse?" said Gerstner.

"In that case I'm afraid you will have to stay here," said the General seriously.

"In other words, you're giving me the choice of close arrest, or having your watchdogs breathing down my neck all the time," said Gerstner. He laughed mirthlessly. "That's some reward for risking my life in that firecracker of yours." Warner, the Psycho Tech, moved forward.

"I'm sorry you feel that way about it, Gerstner," he said. "We'll do our best not to get in your way too much. Won't we Craven?" The other man looked at him with a sneer.

"Oh sure," he said. "Just pretend to yourself that we're not there, and you'll be O.K."

"Watch your damned mouth, Craven!" said the General. "We've all got our jobs to do, and you'll do yours—understood?" Craven went a shade paler, he looked somewhat ashamed of himself.

"Sure, General, anything you say. But I don't have to like it, do I?"

The General ignored him and addressed Gerstner. "Take my advice, Mike. Go home for a few days. Have the vacation you've promised yourself. You've done a great job and you deserve it. Report back here in ten days time for further instructions."

The lines of the white bungalow were just visible in the gathering dusk as the copter landed gently on the well-kept lawn. Gerstner sat for a moment, drinking in the cool sanity of the scene. Here was home, where he and Kath had built their twin life together, a thing of peace and beauty. He glanced at the two silhouettes beside him in the darkened cab.

"Look, fellows," he said awkwardly. "Would it be O.K. with Security Regs if I just walked up that path on my own? You can watch my every move from here." Surely they could not be so insensitive to normal human feelings as to deny him the right to privacy at such a moment.

"Go ahead, Gerstner," said Warner. "We'll follow you in a couple of minutes." Gerstner murmured his thanks and scrambled out of the copter.

Craven watched the tall figure hurrying towards the bungalow. "If that doesn't beat the band," he said. "I believe the big lug's gone all sentimental." Warner looked at him with distaste.

"Such things are possible," he said coolly.

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Gerstner placed a finger on the bell push. How long had it been since he had seen her—two weeks ? two days ? A surge of anticipation flowed through him as the hall light was switched on and the blurred outline of a figure was visible approaching the frosted glass doorway. The door opened.

Katherine Gerstner, the light scintillating in her blonde hair, stood in the doorway. Mike moved forward to take her in his arms, and then realised that his smile of recognition was not returned. Kath's face held an expression that baffled him momentarily. Unthinkingly he looked into her eyes.

"*. . . I must be nice to him . . . they'll be here soon . . . can't expect me to . . .*" A jumble of surface thoughts tumbled into his consciousness —with overtones of fear and horror. Gerstner looked away quickly, cursing this telepathic gift which might well strip bare and destroy the illusion, the tender illusion of love he bore for this woman.

She smiled. "Hallo, Mike. I've been expecting you. They called from the Project and said you were on your way over." He embraced her desperately. Nothing must spoil this moment ; time enough later for questions and answers. Perhaps the strain of waiting for news of him had been too severe and had left a current of fear in her mind that would take some time to disappear. He determined never to use the gift upon her again.

"Hallo, darling," he said. "Let's stay like this forever." He felt her body stiffen against his.

"Don't want to break things up, folks," came the voice of Warner. "But I think we all ought to go inside. You make too good a target standing there, and we can't take any chances."

That's all, thought Gerstner, now the watchdogs take over. He released Kath and they went into the bungalow followed by the two men. Craven closed the door.

"I don't expect they told you about this when they called," said Gerstner to his wife. "I'm an important man now. These two are my bodyguards . . . or keepers. This is Warner, he's a Psycho Tech—on hand in case I developed any startling aberrations on my little trip, I suppose. The gentleman standing by the door is called Craven, a Security man. In addition to being a passable copter pilot, he boasts a particularly offensive brand of sardonic humour."

"Thanks for the build-up," said Craven. Katherine looked nervous and confused.

"If you'll all come into the living room, dinner will be ready in a few minutes," she said.

During the meal the atmosphere was uncomfortably strained. Warner did his best to steer the conversation on to impersonal, small talk ground and Katherine made an attempt to appear gay. Gerstner glanced across the table at the taciturn Craven. He wondered whether

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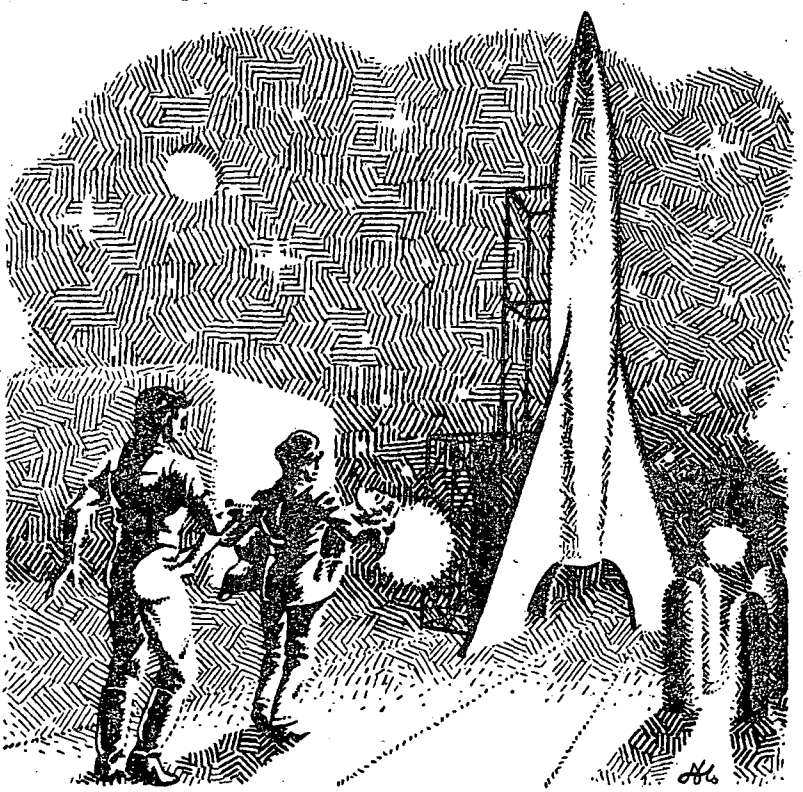

the man was just naturally anti-social, or under some sort of mental strain which made him act that way temporarily. Despite the manoeuvres of Warner the conversation inevitably drifted to the subject of rocket flight. Gerstner was surprised to see Craven lose some of his sullenness and talk quite intelligently about the technical aspects of the project.

The wall visorphone buzzed briefly. Warner rose from the table quickly and activated the screen. The face of the General appeared.

"Everything going O.K., Warner?" he asked.

"Of course, General," said Warner. "We arrived here on schedule, and, to the best of my belief, undetected."

"Fine," said the General. "Now I've got some news for you. Security just called me. They say that there's been a leak somewhere. Our friends over the other side have found out about Gerstner's flight. You know what that means—they'll stop at nothing to get hold of him. All their available agents will be looking for him."

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"I don't like the sound of that, General," said Warner. "This bungalow is rather isolated. What do you think we ought to do?"

"I haven't really figured that one out yet," said the General. "Ask Gerstner to come over into focus, will you." Gerstner, who with the others in the room had heard the entire conversation, rose from the table and walked forward.

The General eyed him coolly.

"I don't like having to ask you this, Mike," he said. "But you must see what the situation is. The enemy know that we have managed to send a piloted rocket right out into space—but they don't know the identity of the pilot. They may have men anywhere, so I dare not send out a large Security guard, which would draw their attention to you. The best thing will be for you to lie quiet there for a couple of days, but don't move outside the house. Then, when I give you the all clear, you are to come straight back here to the project, where I can keep an eye on you personally."

"Thanks for the long vacation," said Gerstner. "Why don't you let me take my own chances. I'm fine here, and I can take care of myself."

"That's not the point, Gerstner," said the General. "The enemy have their own special methods of getting information out of people, and you've got something they want. You will obey my orders . . . or Craven and Warner will enforce them, if necessary. That is all." The image faded from the screen.

Gerstner flung down the magazine in disgust. Warner, who was sitting on the other side of the room looked up quickly.

"Six days cooped up in this place," said Gerstner. "I used to like it here, but now it gives me claustrophobia."

"I expect the General to call some time tonight," said Warner. "At least there will be something for you to do when we get back to the project."

"Don't waste your pep talk," said Gerstner. He rose from his chair. "I'm going out on to the back porch for some fresh air, and don't try to stop me. It's quite dark out there, so none of your much discussed enemy agents are likely to see me." He walked out of the room and along the corridor towards the back of the bungalow. He carefully switched off the corridor light and opened the door quietly.

Gerstner stepped on to the porch—and realised that he was not alone. He stood absolutely still whilst his eyes accustomed themselves to the darkness. Along to his right he could see two figures. A man and a woman in close embrace, obviously unaware that they were being watched.

"How much longer is this going on?" said the woman softly. "I can't stand much more, darling." Gerstner stiffened, the voice was Kath's.

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"We should hear from the General tonight," said Craven. "Don't worry, dear."

"I can't think why you ever agreed to this horrible plan," said Kath. "Why did it have to be you? Why did they have to pick on us?"

"You know why, Kathy," said Craven. "Don't you think it's been hell for me too? I was the obvious choice. I had been with the ship ever since the planning stage. I watched her grow and built the control circuits myself, nobody could handle her better than me."

"I think it would have been better if you had made the flight," she said. "I think I could have borne the uncertainty of that better than the last two days. Having to act naturally towards that . . ." Her voice rose hysterically. Craven's arm moved up swiftly and his hand covered her mouth.

"Quiet, darling," he said soothingly. "Someone might hear you."

Gerstner's hand moved slowly along the wall, feeling for the light switch.

"I'm sorry, Mike," said Kath. "I'll try to be brave."

The fingers closed on the switch and paused momentarily. Gerstner's brain reeled. Mike—Kath was talking to Craven. A blaze of light flooded the porch. The pair turned swiftly, the surprise on their faces turning to horror as they saw the identity of the intruder.

Gerstner looked first into the mind of the woman. He saw there panic and confusion, an incoherence of thought which he had not time to unravel. Silently he turned to the man. As he moved into the mind he found that the man he knew as Craven was aware of himself as Mike Gerstner, rocket control specialist and pilot.

"You must be mad, Craven," said Gerstner. "How could such a thing be?" Craven was frozen in horror as he realised that his mind must have been probed. "If you are Gerstner—then who am I?" He read the thoughts simultaneously with the sound that issued from the man's lips.

"You are nothing . . . an Android . . . a creature cultivated in a laboratory vat. Your mind and personality are a duplicate of my own, placed there by the scientists who created you." Gerstner was shaken by the horror of the conception, he knew that these were not lies.

"Why . . . for what purpose?" he asked.

"To take the first ship into space," said Craven. "And then, if you returned, to spend a certain time in a normal environment under observation, to find out if the experience of space travel would have aberrative effects upon your mind."

"And after that?" said Gerstner.

"Vivisection!" said Craven. The word and the concept seared into Gerstner's consciousness. Vivisection—a laboratory animal to be torn apart and examined, so that in future real men could venture into space unafraid of the effects of null gravity and spatial radiation.

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He looked at the woman he had thought of as Kath, his wife. She was slumped against the wall, head in hands, her shoulders racked by retching sobs. He realised that the love he had felt for her was merely an electrical impulse fed into his brain along with the other data. The emotion was still there, but alongside it a great rage was growing. He lurched forward towards Craven.

The conflict was swift, and unfair. To Gerstner it was like stealing matches from a blind man. He could read Craven's every thought and anticipate his every move. There was some satisfaction to him as he held the man's throat between his two hands and exerted a terrible pressure.

"Break it up, Gerstner, you fool," Warner said urgently.

Gerstner loosened his grip and allowed the unconscious body to fall to the floor. He turned. The Psycho Tech was standing at the doorway, a blaster in his right hand.

"Not Gerstner," he said. "What did you call me back in the laboratory—Number Four X? That would be good enough for an android." Warner's grip on the blaster tightened as he realised the situation.

Gerstner probed fiercely into the Tech's mind—and found what he sought. Warner dare not kill him, the data in his mind was too important. Gerstner moved forward confidently and tore the blaster from the man's grasp. The resistance he met was feeble and badly directed as he had predicted. Turning the blaster butt uppermost he clubbed Warner into unconsciousness. He turned to face Katherine.

"You monster," she said, gazing at him with fear-widened eyes.

He moved towards her slowly. Tear-stained and dishevelled as she was, she was still the object of his love.

"Don't be afraid of me," he said. "What else could I do? It was either them or me. You do see that . . . don't you? I couldn't harm you—not the way I'm built. I'm Gerstner . . . Mike Gerstner, your husband." He took her by the arm. "We'll have to get out of here. Let's go."

He half dragged, half carried the feebly protesting woman through the bungalow and out on to the front lawn. The copter was still standing where it had been left.

He lifted her aboard and followed. A few seconds later the motor roared into life and the copter shot swiftly into the night sky. Gerstner gazed at the luminous instrument panel. A plan was taking form in his mind—a mad plan, but what other would suffice under the circumstances?

A short time later the lights of the project buildings became visible. He switched on the receiver.

"Gerstner calling project one . . . Gerstner calling . . ." The answer was almost immediate.

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" Project, here. Where are you, Gerstner ? What has happened ?"

" Enemy agents raided my bungalow. Warner and Craven held them off whilst my wife and I escaped. I'm in a copter, one mile to the north of you. Request permission to land."

" Come in at once, Gerstner. I will inform the General that you are landing in front of the Administration building."

Gerstner smiled and switched off the radio.

" You'll never get away with it," said Katherine. " They'll never believe you—I'll tell them what happened." Gerstner opened the first aid kit and picked out a hypo gun.

" Sorry to do this to you, Kath," he said. " But if you won't be sensible. This will put you out until I've got the situation organised." He gave her the full shot and a moment later she subsided into a drugged sleep.

He landed the copter and leapt our, locking the door behind him. The General rushed over to meet him.

" Good work, Gerstner," he said. " I've sent a Security guard over to your place to help Craven and Warner. Thank heaven the swine didn't get you."

" Better the devil you know," said Gerstner cryptically as they entered the building. The General's concern for his skin struck him as rather amusing, coming from a man who would cheerfully be a party to his vivisection in a few days time.

" You'll have to stay on the project in future, of course," said the General. " We can keep a decent screen round you here—you'll be much safer." They entered the General's office. " Sit down over there, Mike."

Gerstner felt strangely calm. He knew what he had to do. Just how it would be done depended a great deal upon the information the General would be able to give him. He looked keenly at the older man.

" We'd better get this straight to start with," he said. " There was no raid by enemy agents." He was probing the other's mind as he spoke, and noted the reaction of shock and the question that was immediately expressed vocally.

" What the devil are you talking about, Gerstner ? Warner and Craven would never have let you out of their sight—their orders were quite plain. What has happened to them ? "

" Unfortunately for your watchdogs, I discovered exactly where I stand in this set up," said Gerstner. " Experimental animals can be very useful, but not if they are intelligent enough to take a hand in the game themselves."

" You're talking in riddles," blustered the General. " The flight must have affected your brain." His hand moved towards the switch of the desk communicator. Gerstner produced the blaster.

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"Don't do that, General," he said. "I shall not hesitate to use this—what have I got to lose? To save you wasting your time on futile efforts to convince me that what I have learned is not true, I must tell you that the trip did affect my brain. By some process which I cannot attempt to understand I was rendered telepathic. At this moment I can read every thought passing through your conscious mind." He felt the undercurrent of fear step up suddenly. "You may as well answer my questions truthfully in the first instance. I can drag the information out of you mentally if necessary, but I have an idea that process could have a lastingly aberrative effect on your mind."

The older man was slumped in his chair now.

"All right, what do you want to know?" he said.

"What were the physicist reports on the rocket?" asked Gerstner.

"Even better than we had expected," said the General. "As you know, we had hoped for a low enough fuel consumption to allow the next trip to go much further—to the Moon, in fact. All the data we have obtained confirms the assumption and we have had orders to carry out this project at the earliest opportunity. Re-fuelling and installation of the necessary instruments has been in progress for the last twenty-four hours."

"I see from your mind that the ship will be ready for blast off within a few hours," interrupted Gerstner. "That is even better than I had hoped. You've got yourself a pilot with experience for this job, General. Or did you have other plans for me? I see that you had—I was due to be taken apart in a couple of days. I'm afraid that appointment will be postponed indefinitely. I'm taking that ship up as soon as she's ready for space."

"You can't do that, Gerstner," said the General. "I know it must be a terrible thing to know that you are an Android built for one purpose alone, but try to realise what this project means to our country, to the human race as a whole."

"You don't quite seem to understand," said Gerstner. "What is the human race to me? As far as your particular branch of it is concerned I'm just a machine to be thrown on the scrap heap when my function is performed. Look at it this way—if I take that ship up and land her on the Moon, I shall be in a tremendous position for bargaining when I bring her back to earth. The other side of the earth, of course. We all know that the enemy is working on a similar project and we are pretty certain that they are way behind us. I shall be able to deliver the answer to all their problems right in their lap. That seems to have pretty good survival value to me."

The communicator buzzed briefly. The General looked at Gerstner.

"O.K., switch it on," he said, fingering the blaster. "But don't forget about this."

"General here," said the older man into the communicator.

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" Chief of Ground Staff, speaking. Re-fuelling and installations completed, sir."

" Thanks, Johnson. Good work," said the General. He switched off the communicator. Gerstner rose to his feet.

" That means it's time for me to go," he said. " I think you'd better come along with me." A wave of fear coupled with a strange exhilaration came from the General's mind.

" Do you mean all the way ? " he asked. " You realise that I have about a hundred to one chance of surviving the blast off ? But then if my project is to die, I might as well go out with it."

" If that's the way you want it," said Gerstner with growing admiration for the man. " We'll take your ground car and collect the other passenger on the way."

The vehicle drew to a standstill. The slim spire of the rocket was outlined against the night sky. Gerstner pointed to the still unconscious form of Katherine who lay on the rear seat.

" Pick her up, General. And let's not waste any more time arguing. Where I go—she goes." The General obeyed silently. Once in the control cabin Gerstner closed the airlock and switched the motors to warm up.

" Strap her to that couch," he ordered. " Then get yourself ready for blast off." He waited until these operations were completed and took his place on the pilot's couch. He switched on the automatics that would cut in the main jets for blast off.

" Sixty seconds to go, General," he said.

" Just time to tell you, Gerstner," the man's voice was hard and triumphant. " The boys in the laboratory built you well. You can do everything a man can do—but you weren't built to last ! You don't build a machine that will operate for a thousand years if you only need it for a few weeks. You were due for Vivisection in two days time because shortly after that you will begin to lose efficiency. Your body will gradually disintegrate as the artificial organs and glands cease to function. You'll never reach the Moon, Gerstner—you're jerry-built—you'll be dead long before. This ship is my baby. I can handle her if I can survive the blast off, and by Jupiter I mean to ! "

The conception of his defeat hit the Android as he felt the first vicious tug of acceleration . . .

Dan, Morgan.

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With Prototype completed the American Society for Space Flight only requires the fuel to make the ship ready for takeoff. But time has just about run out for Novak and his assistants as power politics and pressure groups close in for the kill.

TAKEOFF

By Cyril M. Kornbluth

Illustrated by QUINN

Conclusion

FOREWORD

Michael Novak, ceramic engineer, working in the Nuclear Energy for the Propulsion of Aircraft (NEPA), Division of the U.S. Atomic Energy Commission, is inexplicably transferred to the Argonne National Laboratory in Chicago where his particular talents are entirely wasted in the field of pure nuclear theory. Attempting in vain to get a suitable transfer he forcibly resigns and attempts to get a job elsewhere. The fact that he had struck the Research Director when handing in his resignation goes against him wherever he applies, and he is getting more than despondent when he receives a curious letter from a Los Angeles office offering him fulltime work in refractories research and development with high-altitude jet aircraft.

Intrigued by the apparent mystery he travels to Los Angeles and is appalled to find that the office belongs to an obscure amateur organisation known as the American Society for Space Flight. *He meets Mr. Friml, the Secretary, and Mr. MacIlheny the President, who assure him that*

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the Society has a progressive programme of development, plus laboratories and a prooving ground and unlimited capital, but refuse to disclose where their funds are obtained. Sceptical but still intrigued, Novak goes with Friml to the Society's launching ground and is amazed to find a full scale steel mock-up of a space ship standing on the field.

He is introduced to Clifton the engineer in charge of construction and Friml explains that the one thing lacking is a suitable fuel. He has already been to see Daniel Holland, chief of the U.S. Atomic Energy Commission, in Washington, but the Government were not interested in producing a fuel for the Society. Their plan, states Friml, is to complete

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the ship and then the Government would be forced to do something about the propulsion unit before any other World power became too interested in the project.

Novak accepts the position, is assigned a workshop and laboratory, and commences work on the firing chambers and throat linings for the Proto-type, *as the rocket had been named. He soon finds out that most of the 'technicians' working on the project are part-time enthusiasts, and meets Amelia Stuart, daughter of the chief of Western Aircraft, who, apart from being attractive, also holds numerous scientific degrees.*

Studying the plans for the fuel chambers, Novak gets the idea that the Society is being financed by foreign backers and tells his suspicions to Clifton. The two of them make a report to Anheier of the A.E.C. Security Office in the local Federal Building, who seems to know more about everyone concerned in the space project than could be expected. He infers that they mind their own business.

Later that same day Clifton is murdered while attending a meeting of the Rocket Society, his assailant escaping during the showing of a science fiction film. Overcome by the shock of his death his wife Lilly is taken to the Beverly Hills home of Amelia Stuart where Novak visits them and informs the two girls that he has accepted the position left vacant by Clifton's death. While there he meets Wilson Stuart, Amelia's father, and sharp words are passed between them—Stuart apparently thinking that Novak's project was typical of cranks.

Meanwhile, in Washington, Daniel Holland of AEC is apparently being singled out by political opponents for public attack—treason is hinted at.

Proto *nears completion, both Amy and Lilly assisting Novak in his final work. One afternoon, following a series of unsuccessful tests, Novak goes into Town for relaxation and calls up Friml. The two have a few drinks and Novak becomes suspicious of the little Secretary. He feels sure that he knows something about Clifton's death. He arranges with Lilly to use her feminine wiles upon Friml and leaves him at her home and returns to the field.*

Soon after this, work is completed on Proto *and Novak leaves for Los Angeles with the final equations for computing. He is confronted by a changed Friml—pugnacious and bullying.*

XIII.

"Somebody's been feeding you raw meat, Friml. And I think I know who." Friml looked smug for a moment. "EBIC is I.B.M.'s Electronic—Binary—Integrating—Calculator. Get it? It's the only major electronic calculator available to the private citizen or firm, thanks to I.B.M.'s generosity and sense of public relations."

The secretary-treasurer said petulantly: "You might have made your request clear, Novak."

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"Doctor Novak to you," said the engineer, suddenly very sick of the new Friml. It was such a stinking, messy thing to run into after such a beautiful spell of research work. "Now just get me lined up for a crack at EBIC. It's I.B.M., New York. One hundred and thirty-two partial differential equations. Just get it done and stay out of my hair until then.'

He walked out of the office, boiling, and picked up a pint of bourbon at a drugstore before he went to his hotel. Swear to God, he thought, this deal's as lousy as A.E.C. and you don't get a pension either.

There were several slips in his pigeonhole at the hotel mail desk. They all said to call Miss Wynekoop at such and such a number as soon as he could, please. He had never heard of Miss Wynekoop, and the phone number didn't ring any bells. He took off his shoes when he got to his room, had a drink of the bourbon, and called the number.

A woman's brightly noncommittal voice said: "Hello?"

"This is Michael Novak, Miss Wynekoop?"

"Oh, Dr. Novak. I wonder if I might see you this evening about employment?"

"I'm not hiring."

She laughed. "I meant employment for you. I represent a firm which is adding to its technical and executive staff."

"I have a job. And a one-year contract with options."

"The contract would be our legal department's worry," she said cheerfully. "And if you meet our firm's standards, I think you'd hesitate to turn down our offer. The pay is very, very good." Then she was crisp and businesslike. "Are you free this evening? I can be at your hotel in fifteen minutes."

"All right," he said. "Why not? I suppose from the way you're putting all this that you're not going to tell me the name of your firm?"

"Well, we do prefer to keep such things quiet," she apologized. "There's speculation and wasted time and broken hearts for the people who think they're going to get it and don't. I'm sure you understand. I'll see you very soon, Dr. Novak." She hung up and he stood for a moment at the phone, undecided. More funny business? Wait and see.

He put his shoes on again, grunting, and chain-smoked until Miss Wynekoop knocked on his door. She was tall, thirty-ish and engaging in a lantern-jawed way. "Dr. Novak. I could tell you were a scientist. They have a look—— It was very good of you to let me see you on a moment's notice like this. But I hesitated to contact you through the A.S.F.S.F. In a way I suppose we're trying to steal you from them. Of course our legal people would buy out your contract with them so they'd suffer no financial loss in retraining a man to take your place."

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"Sit down, please," he said. "What are these standards your firm wants me to meet?"

She settled herself comfortably. "Personality, for one thing. Our technical people have looked over your record and decided that you're the man for the job if you're available—and if you'll fit in. Our department head—you'd recognize the name, but of course I can't tell you yet—our department head would like me to check on some phases of your career. We're interested, for example, in the events that led up to your separation from A.E.C."

"Oh, are you?" he asked grimly. "As far as anybody is concerned, I resigned without notice after a short, hot discussion with Dr. Hurlbut, the director of the Argonne National Lab."

She giggled. "I'll say. You socked him."

"Well, what about it? If you people thought that means I'm incurably bad-tempered you wouldn't be here interviewing me now. You'd be trying the next guy on the list."

Miss Wynekoop became serious again. "You're right. Naturally we don't want a man who's going to flying off the handle over a trivial difference of opinion. But we certainly wouldn't hold it against you if you had actually been pushed to the breaking point by intolerable conditions. It could happen to anybody. If you will, I'd like you to tell me what brought the disagreement about."

The thing was sounding more legitimate by the minute—and is there anybody who doesn't like to tell his grievance? "Fair question, Miss Wynekoop," he said. "What brought it about was several months of being assigned to a hopelessly wrong job and being stymied every time I tried to get back to my proper work. That's not just my subjective opinion; it's not a gripe but a fact. I'm a ceramics engineer. But they put me into nuclear physics theory and wouldn't let me out. Hurlbut apparently didn't bother to acquaint himself with the facts. He insulted me viciously in public. He accused me of logrolling and incompetence. So I let him have it."

She nodded. "What are the details?"

"Details. What details?"

"Things like, when were you transferred and by whose authority. Your relationship with your superiors generally."

"Well, last August, about mid-month, my transfer order came through without warning or explanation. It was signed by the director of the Office of Organization and Personnel—one of the Washington big shots. And don't ask me about my relationship with him; I didn't have any. He was too high up. My orders before that had always been cut by my working directors."

She looked understanding. "I see. And the working directors: did they ride you? Keep you short of supplies? Stick you on the night-side? That kind of thing?"

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Night-side. He had known reporters, and that was newspaper talk. They said without thinking: day-side, night-side, city-side, sport-side. " *Smear us, Novak,*" Anheier had grimly said, " *and we'll smear you back.*" He tried not to panic. " No," he said evenly. " There never was anything like that."

" What was your relationship with, say, Daniel Holland ? "

Novak didn't have to fake a bewildered look. " Why, I had nothing at all to do with anybody on his level," he said slowly. " Maybe there's been a mistake. Do you have it clear that I was just a Grade 18 ? I wasn't in the chain of command. I was just hired help; why should I have anything to do with the general manager ? "

She pressed: " But we understand that your transfer order was put through by the director of the Office of Organization and Personnel on the direct suggestion of Mr. Holland."

He shook his head. " Couldn't be. You've been misinformed. Holland wouldn't have known me from Adam's off ox."

Miss Wynekoop smiled briefly and said: "We were pretty sure of our facts. There's another matter. Your AEC Personnel Form Medical 11305 was altered by some means or other last September. Were you retested by the psychologists before that happened ? "

" What the deuce is my Personnel Form Medical whatever-it-was?"

" 'Personality card ' is what they call it unofficially."

Oh. Personality cards he knew about; they were an A.E.C. joke. You took a battery of tests during employment processing and a psychologist evaluated the results and filled out the card with attention to such things as " attitudes," " anxieties," " responses," and other items supposed to give your working director an idea of how to handle you. Your personality card went everywhere with you and it was never, never altered. It was a very peculiar question and it was becoming a very peculiar interview. " Yes," Novak lied. " They ran me through the works again at N.E.P.A. It was some psychologist's brilliant idea of a controlled experiment."

That rocked Miss Wynekoop back on her heels. She smiled with an effort and said, rising: " Thanks very much for your co-operation, Dr. Novak. I'll call you early next week. Thanks *very* much."

When he saw the elevator door at the end of the corridor close on her, Novak called Information. He asked: " Do you have Directory Service in this city ? What I mean is, I have a phone number and I want the name and address of the subscriber."

" Yes, sir," said Information. " Just dial the exchange of the number and then dial 4882." Same routine as Chicago.

Directory Service said Miss Wynekoop's phone was an unlisted number and that was that. He called Miss Wynekoop's number again and a man with a pleasant voice answered, saying: " Howard here."

" Let me talk to the editor, Howard," Novak said.

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There was a long pause and then: "Who is this, please?"

Novak hung up. "Editor" had meant something to Howard—or maybe Howard just wasn't a quick thinker.

Novak had last seen Anheier, agent in charge for the Los Angeles Regional A.E.C. Security and Intelligence Office, at the inquest on Clifton. Novak had woodenly stood and recited his facts while Anheier's calm eyes were on him, with their threat of instant and total ruin if he voiced his suspicion that Clifton had been murdered in some shadowy atomic intrigue. The verdict had been suicide . . .

The engineer hesitated a long minute and called the Security Office in the Federal Building. "Mr. Anheier, please," he said. "This is Dr. Michael Novak."

A man said: "Mr. Anheier's gone home, sir. I'll give you his home phone if it's important, or take a message."

Novak said: "It's important," and got Anheier's home phone number

The agent in charge was as placid as ever. "Good to hear from you, Dr. Novak. What can I——"

Novak cut him off. "Shut up. I just want to tell you something. You were afraid of my ideas getting into the papers. You said you'd smear me if I did anything to publicize them. I want you to know that the newspapers are coming to me." He proceeded to tell Anheier what had been said, as close to verbatim as he could. At the end of the recital he said: "Any questions?"

"Can you describe this woman?"

He did.

Anheier said: "It sounds like somebody who hit town today. I'm going into the Federal Building office now. Will you come down and look at some pictures? Maybe we can identify this Wynekoop."

"Why should I?"

Anheier said grimly: "I want your co-operation, Dr. Novak. I want to be sure you aren't leaking your story to the papers and trying to avoid retaliation in kind. The more co-operation we get out of you, the less likely that theory will seem. I'll be waiting for you."

Novak hung up the phone and swore. He drank again from the bottle of bourbon and took a taxi to the Federal Building.

There was a long wait in the dimmed hall for the single after-hours elevator. When its door rolled open on the eighth floor, Novak saw that the Security office glass door was the only one on the floor still lit from inside. Twenty-four hours a day, he had heard, with the teletype net always up.

He gave his name to the lone teletype operator doubling at night as receptionist.

"Mr. Anheier's in his office," said the operator. "You see it there?"

Novak went in. The tall, calm man greeted him and handed him a single eight-by-ten glossy print.

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"That's her," he said without hesitation. "A reporter?"

Anheier was rocking gently in his swivel chair. "An ex-reporter," he said. "She's Mary Tyrrel. Senator Bob Hoyt's secretary."

Novak blinked uncomprehendingly. "I don't see what I can do about it," he said, shrugging, and turned to leave.

"Novak," Anheier said. "I can't let you out of here."

There was a gun in his hand, pointed at the engineer.

"Don't you know who killed Clifton?" Anheier asked. "I killed Clifton."

XIV.

Night of a bureaucrat.

The bachelor apartment of Daniel Holland was four rooms in an oldish Washington apartment house. After six years in residence, Holland barely knew his way around it. The place had been restrainedly decorated in Swedish modern by the wife of a friend in the days when he'd had time for friends. There had been no changes in it since. His nightly track led from the front door to the desk, and after some hours from the desk to the dressing closet and then the bed. His track in the morning was from the bed to the bathroom to the dressing closet to the front door.

Holland was there in his second hour of paper work at the desk when his telephone rang. It meant a wrong number or—trouble. His eyes slid to the packed travelling bag he always kept beside the door; he picked up the phone and gave its number in a monotone.

"This is Anheier in L.A., chief. Let's scramble."

Holland pushed the scrambler button on the phone's base and asked: "Do you hear me all right?"

"I hear you, chief. Are you ready for bad news?"

The general manager felt a curious relief at the words; the moment had arrived and would soon be past. No more night sweats . . . . "Let me have it."

"Hoyt's got the personnel angle. Tyrrel's been grilling Novak. The questions showed that she had just about all of it on ice."

"What does Novak know?"

"Too much. I have him here." The Security man's voice became embarrassed. "I have a gun on him, chief. I've told him I shot Clifton to let him know I mean business. And we can't leave him wandering around. Hoyt would latch on to him, give him a sugar-tit, listen to all he knows and then—we're done."

"I don't doubt your judgment, Anheier," Holland said heavily. "Put him in storage somewhere. I'll fly out to the coast. I've got to talk to him myself."

"You can't fly, chief. It'd be noticed."

"Too much has been noticed. It's a question of time now. Now we must ram it through and hope we're not too late. Good-bye." He

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hung up before Anheier could protest, and went to get his hat and coat.

Novak listened to the Los Angeles end of the conversation, watching the gun in Anheier's big, steady hand. It never wavered.

The Security man put his odd-looking telephone back into his desk drawer. "Get up," he said. "You won't be killed if you don't make any foolish moves." He draped a light raincoat over the gun hand. If you looked only casually it would strike you as nothing more than a somewhat odd way to carry a raincoat.

"Walk," Anheier told him.

In a fog, Novak walked. It couldn't be happening, and it was. Anheier guided him through the office. "Back late to-morrow, Charles." Yell for help? Break and run? Charles was an unknown, but the big black gun under the coat was a known quantity. Before the thing could be evaluated they were in the corridor. Anheier walked him down the lonesome stairs of the office building, sadly lit by night bulbs, one to a landing. Swell place for a murder. So was the parking lot back of the building.

"I know you drive," Anheier said. "Here." He handed him car keys. "That one."

Use your head, Novak told himself. He'll make you drive to a canyon and then you'll get it without a chance in the world of witnesses. Yell here, and at least somebody will know——

But the big gun robbed him of his reason. He got in and started the car. Anheier was beside him and the gun's muzzle was in his ribs, not painfully.

The Security man gave him laconic traffic directions. "Left. Left again. Right. Straight ahead." Aside from that, he would not talk.

After an hour the city had been left behind and they were among rolling, wooded hills. With dreamlike recognition he stopped on order at the police sentry box that guarded the wealthy from intrusion by kidnappers, peddlers, and thieves. The gun drilled into his ribs as he stopped the car, painfully now. Anheier rolled down his window and passed a card to the cop in the handsomely tailored uniform.

Respectfully: "Thank you, Mr. Anheier. Whom are you calling on?" The best was none too good for the rich. They even had cops who said "whom."

"Mr. Stuart's residence. They'll know my name." Of course. The gun drilled in.

"Yes, sir," said the flunky-cop. "If you'll wait just a moment, sir." The other man in the booth murmured respectfully into his wall phone; he had his hand casually on an elegant repeating shotgun as he listened. He threw them a nod and smile.

"Let's go, Novak," Anheier said.

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The gun relaxed little when the booth was behind them. "You're all in it," Novak said at last, bitterly.

Anheier didn't answer. When they reached the Stuart place he guided Novak up the driveway and into the car port. Lights in the rangy house glowed, and somebody strode out to meet them. Grady, the Stuart chauffeur. "Get out, Novak." For the first time, the gun was down.

"Grady," Anheier said, "keep an eye on Dr. Novak here. We don't want him to leave the grounds or use the phone or anything like that." He stowed the gun in a shoulder holster. "Well, let's get into the house, shall we?"

The old man was waiting for them in his wheel chair. "What the hell's going on, Anheier? You can't turn this place into an office."

"Sorry," said the Security man briefly. "It can't be helped. The chief's coming out to see Novak. He's found out too much. We can't leave him wandering around."

Wilson Stuart glared at Novak. "My daughter thinks you're intelligent," he said. "I told her she was crazy. Anheier, when's all this going to happen?"

"I don't know. Overnight. He said he'd fly. I tried to talk him out of it."

"Grady," the old man said, "put him in a bedroom and lock the door. I'll have Dr. Morris mix something to give him a good night's sleep."

Incongruously the chauffeur said: "This way, sir."

The bedroom was the same one Lilly had been put up in. Its solid door closed like the door of a tomb. Novak dashed to the long, low window and found it thoroughly sealed to the wall. The place was air-conditioned. Of course he could smash it with a table lamp and jump. And be brought down by a flying tackle or a bullet.

Grady was back in five minutes with a yellow capsule in a pillbox. "Dr. Morris sent this for you, Dr. Novak," he said. "Dr. Morris said it would help you rest." Grady stood by expectantly as Novak studied the capsule. After a moment he said pointedly: "There's water and a glass in the bathroom, sir."

Put on a scene? Refuse to take their nassy ole medicine? He cringed at what would certainly happen. These terrifying competent people would stick him with a hypodermic or—worse—have their muscle man hold him while the capsule was put in his mouth and washed down. He went silently to the bathroom and Grady watched him swallow.

"Good night, Dr. Novak," the chauffeur said, closing the door solidly and softly.

The stuff worked fast. In five minutes Novak was sprawled in the bed. He had meant to lie down for a minute or two, but drifted off. His sleep was dreamless, except that once he fancied somebody had told him softly that she was sorry, and touched his lips.

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A man was standing beside the bed when he awoke. The man, middle-aged and a little fleshy, was neither tall nor short. His face was a strange one, a palimpset. A scholar, Novak fuzzily thought—definitely a pure-research man. And then over it, like a film, slipped a look so different that the first judgment became inexplicable. He was a boss-man—top boss-man.

"I'm Daniel Holland," he said to Novak. "I've brought you some coffee. They told me you shouldn't be hungry after the sleeping capsule. You aren't, are you?"

"No, I'm not. Daniel Holland. A.E.C.? You're——"

The top-boss face grinned a hard grin. "I'm in this too, Novak."

What was there to do? Novak took the coffee cup from the bedside table and sipped mechanically. "Are you people going to kill me?" he asked. The coffee was helping to pull him together.

"*No*," said Holland. He pulled up a chair and sat. "We're going to work you pretty hard, though."

Novak laughed contemptuously. "You will not," he said. "You can make me or anybody do a lot of things, but not that. I guess just a few clouts in the jaw would make me say anything you wanted me to. Those Russian confessions. The American police third degree. If you started to really hurt me I suppose I'd implicate anybody you wanted. Friends, good friends, anybody. You can do a lot of things to a man, but you can't make him do sustained brainwork if he doesn't want to. And I don't want to. Not for Pakistan, Argentina, the Chinese, or whoever you represent."

"The United States of America?" asked Holland.

"You must think I'm a fool," Novak told him.

"I'm working for the United States," said Holland. God help me, but it's the only way left. I was hemmed in with this and that——" There was an appeal in his voice. He was a man asking for absolution.

"I'll tell it from the beginning, Novak," he said, under control again.

"In 1951 a study was made by A.E.C. of fission products from the Hanford plutonium-producing reactors. Properties of one particular isotope were found to be remarkable. This isotope, dissolved in water and subjected to neutron flux of a certain intensity, decomposes with great release of energy. It is stable except under the proper degree of neutron bombardment. Its level of radioactivity is low. Its half-life is measured in scores of years. It is easy to isolate and is reasonably abundant. Since it is a by-product, its cost is exactly nothing."

"How much energy?" asked Novak, guardedly.

"Enough to flash the solvent water into hydrogen and oxygen by thermolysis," Holland said. "You've seen the drawings for *Prototype's* fuel tanks, as we called them . . ."

Anheier came into the room and Novak barely noticed him. His engineer's mind could see the blue print unrolled before him again. The upper tank containing the isotope-water solution . . . the lower

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tank containing a small heavy-water "fish-bowl" reactor for the neutron source . . . the dead-end control systems completed, installed, one metering the fuel solution past the neutron spray of the reactor, the other controlling flux level by damper rods run in and out on servomechanisms . . . the fuel solution droplets flashing into hell's own flame and roaring from the throat with exhaust velocity unobtainable by merely chemical reaction . . .

Holland was talking again, slowly. "It was just numbers on paper, among thousands of other numbers on paper. It lay for years in the files until one of the high-ranking A.E.C. technical people stumbled on it, understood its implications and came to me. His exact words were: 'Holland, this is space-flight.'"

"It is," Novak breathed. His voice became hoarse. "And you sold it . . ."

"*I saved it.* I saved it from the red-tape empire builders, the obscurantists, the mystagogues, the spies. If I had set it up as an A.E.C. project, the following things would have happened. First, we would have lost security. Every nation in the world would shortly have known the space-flight problem had an answer, and then what the answer was. Second, we would have been beaten to the Moon by another nation. This is because our personnel policy forbids us to hire the best men we can find merely because they're the best. Ability ranks very low in the category of criteria by which we judge A.E.C. personnel. They must be conservative. They must be politically apathetic. They must have no living close-relatives abroad. And so on. As bad as the personnel situation, interacting with and reinforcing it, is the fact of A.E.C.'s bigness and the fact of its public-ownership. They mean accounting, chains of command, personnel-flow charts—the jungle in which third-raters flourish. Get in the A.E.C., build yourself a powerful clique and don't worry about the work; you don't really have to do any."

The words were fierce; his tone was dispassionate. Throughout his denunciation he wore the pure-research man's face, lecturing coolly on phenomena which he had studied, isolated, linked, analyzed endlessly. If any emotion was betrayed it was, incongruously, the residual affection of a pure-research man for his subject. When the pathologist calls it a beautiful carcinoma he is being neither ironical nor callous.

"As you know," Holland lectured quietly, "the nation that gets to the Moon first has the Moon. The lawyers will be arguing about it for the next century, but the nation that plants the first moon base need not pay any attention to their arguments. I wanted that nation to be the United States, which I've served to the best of my ability for most of my life.

"I became a conspirator.

"I determined to have a moon ship built under non-Government auspices and, quite frankly, to rob the Government to pay for it. I

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have a long reputation as a dollar-honest, good-government man, which I counted on to help me get away with quite outrageous plundering of the Treasury.

"A study convinced me that complete assembly of a moon ship by a large, responsible corporation could not be kept secret. I found the idea of isolated parts manufactured by small, scattered outfits and then a rush assembly was impractical. A moon ship is a precision instrument of huge size. One subassembly under par would wreck the project. I admit I was toying with the idea of setting up a movie company and building the moon ship as, ostensibly, a set for a science-fiction film, when the A.S.F.S.F. came to my attention.

"Psychologically it seems to have been perfect. You deserve great credit, Dr. Novak, for stubbornly sticking to the evidence and logic that told you *Prototype* is a moon ship and not a dummy. You are the only one who has. Many people have seen the same things you did and refused to believe it because of the sheer implausibility of the situation.

"Hoping that this would be the case, I contacted my old friend Wilson Stuart. He and his company have been the pipeline for millions of Government dollars poured into the A.S.F.S.F. I've callously diverted thousands of A.E.C. man-hours into solving A.S.F.S.F. problems. I had you transferred within the A.E.C. and had your personality card altered so that Hurlbut would goad you into resigning—since the moon ship needed a full-time man with your skills."

"You dared——" choked Novak, stung with rage.

"I dared," Holland said matter-of-factly. "This country has its faults, but of all the nations in the world I judge it as least disqualified to operate a moon base. It's the power of life and death over every nation on the face of the earth, and some one nation has got to accept that power."

Suddenly his voice blazed with passion and the words came like a torrent. "What was I to do? Go ahead and do it the wrong way? Go to the commissioners, who'd go to the congressmen, who'd go to their good friends on the newspapers? Our secrecy would have been wiped out in twelve hours! Set up a Government project staffed with simon-pure but third-rate scientists? Watch the thing grow and grow until there were twenty desk men for every man who got his hands dirty on the real work—and all the desk men fighting like wild beasts for the glory of signing memos? Was I to spare your career and let those A-bomb racks on the Moon go by default to the Argentines or Chinese? Man, what do you think I am?"

"A killer," Novak said dully. "Your man Anheier murdered my friend Clifton."

Anheier's voice was cold. "Executed," he said. "You were there when I warned him, Novak. The penalty for espionage is death. I told him so and he smiled at me to tell me that I wouldn't dare. I

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told him: 'The penalty is death.' And he went to his home and telephoned his contact, Mr. Boris Chodorov of Amtorg, that he'd have something for him in a day or two. God almighty, Novak be reasonable. Should I have written Clifton a letter? I told him: 'Import-export used to be a favourite, but it was too obvious.' So he smiled at me and went home to call his contact. He had something juicy, something out of the general run-of-the-mill industrial-preparedness information he collected for the Soviets.

"*He* may have thought he was just augmenting his income, that it wasn't *really* espionage, that the United States hasn't got the guts to hit back anyway——" His voice trailed off. "I killed him," he said.

"Clifton a spy," Novak said stupidly. He began to laugh. "And Lilly?"

"Just a stupid woman," Anheier said. "We monitored the Cliftons for a long time, and nothing ever emanated from her."

Novak couldn't stop laughing. "You're quite wrong," he said. A hundred little things slipped suddenly into place. "There is no doubt in my mind that Lilly was the brains of the outfit. I can see now that Lilly was leading me by the nose for weeks, getting every scrap of information I possessed. And when she got just one chance she landed Friml and is now milking him."

Anheier had gone white. "How much does Friml know?" asked Holland.

The Security man said: "Friml knows he's employed by Wilson Stuart. And he can guess at a lot of the rest. The way there's always enough material on hand when we order it from a jobber—even grey-market stuff like copper and steel. Our work. And he knows there are calls to and from Washington that have a connection. Between his brains and Mrs. Clifton's, I think we'd better assume that secrecy is gone." He looked and sounded sick.

"Novak," the general manager asked softly, "are you in this too?"

Novak knew what he meant. "Yes," he said. "It looks like the right side of the fence to me."

Holland said: "I'm glad . . . how close to finished is the moon ship?" He was the boss-man again.

"Is the fuel solution ready and waiting?"

"It is. Waiting for word from me. I've also oiled the ways for the diversion of a fish-bowl reactor for your neutron source. It's going to go astray on its way to Cal Tech from Los Alamos."

"EBIC's got to work out my math and I've got to fabricate the liner and vane. At the same time, the ship could be stocked with water, food, and the pressure dome. At the same time the dead-end circuits can be completed. Do you have the food and water and airtanks and lockers?"

"Yes. Give me a figure!" Holland snapped.

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Novak choked on it, terrifyingly aware that no man ever before had borne such tidings as he spoke in the bedroom of a rich man's house in Beverly Hills. "It could take off in two weeks," he said. Here we are at last, Novak thought. Time to close the old ledger on man. Add it up, credit and debit, and carry your balance forward to the first page of the next ledger . . .

"And now," said Holland grimly, "we ought to go and see some people. They'd both be at her house?"

Novak knew what he meant, and nodded. "I suppose so. It's Saturday."

He led the way to the garage. Amy Stuart's little sports car was at home.

"Mr. Holland," Novak said, "there's going to be a hell of a smash when this comes out, isn't there?"

"We hope not," the general manager said shortly. "We have some plans of our own if they try to jail me for fraud and Anheier for murder and the rest of the crew for whatever they can think of."

"Why should Amy be mixed up in this?"

"We need her," Holland snapped. His manner ruled out further questions. They got into Anheier's car and the Security man drove them to the house in Cahuenga Canyon.

XV.

Lilly met them at the door in a housecoat. "Hallo, Mike," she said. "Who're these people? Oh, you' Anheier, ain't you?"

"My name is Daniel Holland, Mrs. Clifton," the general manager said. She didn't move a muscle. "Do you mind if I come in?"

"I t'ink I do," she said slowly. "Mike, what is all this?"

Novak looked at Holland, who nodded. "Espionage," he said.

She laughed tremulously and told him: "You cra-a-azy!"

"Lilly, you once asked me to find out who killed Cliff. I found out. It was Anheier. Cliff was a spy."

Her expression didn't change as she said: "Cliff was a damned bad spy. Come on in. I got somet'ing to tell you too."

They filed into the living room. "Where's Friml?" Novak asked. She jerked her thumb carelessly toward the bedroom door.

"He's a lot smarter than any of you t'ought," she said, making a business out of lighting a cigarette. "He telled me what he saw and figgered out, and I did some figgering too. You' a very smart man, Mr. Holland. But what I got to tell you is I got this stuff to a friend of mine already. If he don't hear from me by a certain time, he sends it on to the newspapers. How you like that, killer?" She blew a plume of smoke at Anheier.

The large, calm man said: "That means you've got it to your employers by now."

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" Does it ? " she asked, grinning. " It doesn't matter. All-I got to do is sic the papers on you, and you' democra-a-atic country does the rest for us like always. I don't know you' rocket fuel yet. Prob'ly wouldn't know what to do vit' it if Friml brought me a bottleful; I don't know science. But it don't matter; I don't worry. The papers and the Congress raise hell vit' you and lead us right to the rocket fuel so our people that do know science can move in and figger it out."

Stirred by a sudden, inappropriate curiosity, Novak couldn't help asking: " Are you a Communist ? Your husband reported to an Amtorg man."

She was disgusted. " Communist, hell ! I'm a European."

" I don't see what that——"

" Listen, Mike," she said flatly. " Before you' friends kill me or t'row me in yail or whatever they gonna do. You fat-belly people over here don' begin to know how we t'ink you all a bunch of monkeys vit' the atom bombs and movies and at'letes and radio comics and two-ton Sunday newspapers and fake schools where the kids don' work. Well, what you guys going to do vit' me ? Shoot me ? Prison? Drop an atom bomb ? Solve everyt'ing ? Go ahead. I been raped by Yerman soldiers and sedooced vit' Hershey bars by American soldiers. I had the typhus and lost my hair. I walked seventy-five kilometers on a loaf of sawdust bread for a yob that wasn't there after all. I speak t'ree languages and understand t'ree more a liddle and you people call me dumb because I got an accent. You people that don' even know how to stand quiet in line for a bus or kinema and t'ink you can run the world. I been lied at and promised to by the stupid Americans. Vote for me and end you' troubles. I been lied at and promised to by the crazy Russians. Nah, vote for *me* and end you' troubles.

" *Sheissdrek.* So I voted for me-myself and now go ahead and drop you' damned atom bomb on the dumb squarehead. Solve everyt'ing, hey boys ? *Sheissdrek.*"

She sprawled in the chair, a tight grin on her face, and deliberately hoisted the skirt of her housecoat to her thighs. " Any of you guys got a Hershey bar ? " she demanded sardonically, and batted her eyes at them. " The condemned European's la-a-ast request is for a Hershey bar so she can die happy."

Friml was standing there with his thinnish hair tousled, glasses a little crooked on his face, wrapped in a maroon bathrobe. His skinny, hairy legs shook with a fine tremor.

" Hallo, sugar," she said to him with poisonous sweetness. " These yentleman and I was discussing life." She turned to them and lectured elaborately: " You know what happen in Europe when out came you' Kinsey report ? This will kill you. All the dumb squareheads and the dumb dagoes and the dumb frogs and krauts said we knew

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it all the time. American men are half pa-a-ansy and the rest they learn out of a marriage book." She looked at Friml and laughed.

"P-p-pull your skirt down, Lilly," Friml said in a weak, hoarse voice.

"Go find you'self a *nice* girl, sugar," she said carelessly. "May be you make her happy, because you sure as hell don'——" Friml's head bobbed as though he'd been slapped. Moving like an old man, not looking at anything, he went to the bathroom and then to the bedroom and closed the door.

"Like the yoke!" giggled Lilly half-hysterically. "He'll do it too; he's a manly liddle feller!"

"I think——" said Novak starting to his feet. He went to the bedroom door with hurried strides and knocked. "Friml! I want to—to talk to you for a minute!"

The answer was a horrible, low, roaring noise.

The door was locked; Novak lunged against it with his shoulder repeatedly, not feeling the pain and not loosening the door. Anheier pulled him back and yelled at him: "Cut that out! I'll get the window from outside." He rushed from the house, scooping up a light, toy-like poker from the brass stand beside the fireplace.

Holland said at his side: "Steady. We'll be able to help him in a minute." They heard smashing glass and Novak wanted to run out and look through the window. "Steady," Holland said.

Anheier opened the door. "Get milk from the kitchen," he snapped at Novak. The engineer got a brief glimpse of dark red blood. He ran for the kitchen and brought a carton of milk.

While Holland phoned for a doctor, Novak and Anheier tried to pour the milk into Friml. It wouldn't go down. The thrashing thing on the floor, its bony frame and pallid skin pitifully exposed by the flapping, coarse robe, wasn't vomiting. They would get a mouthful of milk into it, and then the milk would dribble out again as it choked and roared. Friml had drunk almost two ounces of tincture of iodine. The sickening, roaring noises had a certain regularity. Novak thought he was trying to say he hadn't known it would hurt so much.

By the time the doctor arrived, they realised that Lilly was gone.

"God, Anheier," Novak said white-faced. "She planned it. A diversion while she made her getaway. She pushed the buttons on him and—is it possible?"

"Yes," the Security man said without emotion. "I fell down badly all around on that one."

"Damn it, be human!" Novak yelled at him.

"He's human," Holland said. "I've known him longer than you have, and I assure you he's human. Don't pester him; he feels very badly."

Novak subsided.

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An ambulance with police pulled up to the house as the doctor was pumping morphine into Friml's arm. The frightful noises ebbed, and when Novak could look again Friml was spread laxly on the floor.

" I don't suppose——" Novak said, and trailed off.

" Relation ? " the doctor asked. He shook his head. " He'll linger a few hours and then die. I can see you did everything you could, but there was nothing to be done. He seared his glottis almost shut."

" Joel Friml," Novak told the sergeant, and spelled it. It was good to be doing something—anything. " He lives at the Y in downtown L.A. This place is the home of Mrs. August Clifton—widow. He was spending the night here. My friends and I came to visit. Mrs. Clifton seems to have run out in a fit of nerves." He gave his name, and slowly recognition dawned on the sergeant's face.

" This is, uh, kind of funny," the cop told him. " My brother-in-law's in that rocket club so I happen to remember—it was her husband, wasn't it ? And wasn't there an Anslinger——"

" Anheier," said the Security man. " I'm Anheier."

" Funnier and funnier," said the sergeant. " Doc, could I see you for a——"

The doctor had been listening, and cut him off. " Not necessary," he said. " This is suicide. The man drank it like a shot of whisky—threw it right straight down. (Was he a drinker, by the way?" " Yes." " Thought so.) There aren't any smears on the lips or face and only a slight burning in the mouth, which means he didn't try to retain it. He drank it himself, in a synchronized toss and gulp."

The sergeant looked disappointed, but brightened up to ask: "And who's this gentleman ? "

Holland took out a green card from his wallet and showed it to the sergeant. Novak craned a little and saw that it was a sealed, low-number White House pass. " Uh," said the sergeant, coming to something like attention, " I can't see your name, sir. Your finger——"

" My finger stays where it is, sergeant," said Holland. " Unless, of course, you *insist*——? " He was all boss.

" No, no, no, not at all, sir. That's quite all right. Thank you." The sergeant almost backed away as from royalty and began to snarl at his detail of two patrolmen for not having the meat loaded yet.

They rushed into action and the sergeant said to nobody in particular and very casually: " Think I'd better phone this in to headquarters." Novak wasn't surprised when he heard the sergeant say into the phone, louder than he had intended: " Gimme the city desk, please." Novak moved away. The thing had to come out sooner or later, and the tipster-cop was earning a little side money honestly.

After completing his call, the sergeant came up beaming. " That wraps it up except for Mrs. Clifton," he said. " She took her car ? What kind ? "

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" Big maroon Rolls Royce," Novak said. " I'm not sure of the year —maybe early thirties."

" Well, that don't matter. A Rolls is a Rolls; we'll be seeing her very soon, I think."

Novak didn't say what he thought about that. He didn't think any of them would be seeing Lilly again. He thought she would vanish back into the underworld from which she had appeared as a momentary, frightening reminder that much of the world is not rich, self-satisfied, supremely fortunate America.

In Anheier's car on the road back to the Wilson Stuart place, the Security man asked tentatively: " What do you think, chief ? "

" I think she's going to release everything she's got to the newspapers. First, as she said, it means we'll lose secrecy. Second, it would be the most effective form of sabotage she could practice on our efforts. The Bennet papers have been digging into my dirty work of the past year for circulation-building and for Hoyt, whom they hope to put in the presidency. The campaign should open in a couple of days, when they get Lilly's stuff as the final link.

" I've got to get to Washington and contract a diplomatic illness for the first time in my life. Something that'll keep me bedridden but able to run things through my deputy by phone. Something that'll win a little sympathy and make a few people say hold your horses until he's able to answer the charges. I can stall that way for a couple of weeks—no more. Then we've got to present Mr. and Mrs. America with a *fait accompli*. Novak ! "

" Yessir ! " snapped Novak, surprising himself greatly.

" Set up a *real* guard system at the moon ship. If you need any action out of Mr. MacIlheny, contact Mr. Stuart, who will give him your orders. MacIlheny—up to now—doesn't know anything about the setup beyond Stuart. Your directive is: *build us that moon ship. Fast.*"

" Yes, sir."

" And another thing. You're going to be busy, but I have some chores for you nevertheless. Your haircut is all wrong. Go to a really good barber who does theatrical people. Go to your dentist and have your teeth cleaned. Have yourself a couple of good suits made, and good shoes and good shirts. Put yourself in the hands of a first-rate tailor. It's on the expense account and I'm quite serious about it. I only wish there were time for . . ."

" How's that, sir ? " Novak couldn't believe he had heard it right.

" Dancing lessons," snapped Holland. " You move across a room with all the grace of a steam thresher moving across a Montana wheatfield. And Novak."

" Yes ? " said the engineer stiffly.

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" It's going to be rough for a while and they may drag us down yet. Me in jail, you in jail, Anheier in the gas chamber, Stuart fired by his board—if I know the old boy he wouldn't last a month if they took Western away from him. You're going to be working for your own neck—and a lot of other necks. So work like hell. Hoyt and Bennet play for keeps. This is a bus stop? Let Novak out, Anheier. You go on downtown and let's see production."

Novak stood on the corner, lonely, unhappy, and shaken, and waited for his downtown bus.

His appetite, numbed by last night's sedative, came on with a rush during the ride. After getting off, he briskly headed for a business-district cafeteria, and by reflex picked up a newspaper. He didn't go into the cafeteria. He stood in the street, reading.

DEATH STRIKES AT 2nd ROCKET-CLUB CHIEF:

POISONED ON VISIT TO 1st VICTIM'S WIDOW

Post *Special Correspondent*

Violent death struck late today at a leader of the American Society for Space Flight, nationwide rocket club, for the second time in less than a month. The first victim was club engineer August Clifton, who committed suicide by shooting in a room next door to a meeting of the club going full blast. Today club secretray-treasurer Joel Friml, 26, was found writhing in pain on the floor of a Cahuenga Canyon bungalow owned by Clifton's attractive blonde widow Lilly, 35. Both bodies were discovered by club engineer Michael Novak. A further bizarre note lies in the fact that on both occasions A.E.C. Security agent J. W. Anheier was on the scene within seconds of the discovery.

Police Sergeant Herman Alper said Novak and Anheier paid a morning visit to Mrs. Clifton's home and chatted with her and Friml, who had arrived earlier. Friml disappeared into the bedroom, alarming the other guests. They broke into the bedroom by smashing a window and found Friml in convulsions, clutching a two-ounce bottle of a medicine meant for external use. They called a doctor and tried to give milk as an antidote, but according to the physician the victim's throat had been so damaged that it was a hopeless try.

Friml was taken by ambulance under sedation to Our Lady of Sonora hospital, where no hope was given for his recovery. In the confusion Mrs. Clifton fled the house, apparently in a state of shock, and had not returned by the time the ambulance left.

Friends could hazard no guess as to the reason for the tragedy. Friml himself, ironically, had just completed auditing the rocket club's books in a vain search for discrepancies that might have explained the Clifton suicide.

It was bad. Worse was coming.

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XVI.

Novak moved out to the field, bag and baggage, that night and worked himself into a pleasant state of exhaustion. He woke on his camp cot at nine to the put-put of an arriving jalopy. It was a kid named Nearing. He made a beeline for Novak, washing up in a lab sink.

"Hi, Dr. Novak." He was uncomfortable.

"Morning. Ready for business?"

"I guess so. There's something I wanted to ask you about. It's a lot of nonsense, of course. My brother's in the C.B.S. newsroom in L.A., and he was kidding me this morning. He just got in from the night shift and he said there was a rumour about *Proto*. It came in on some warm-up chatter on their teletype."

Already? "What did he have to say?"

"Well, the A.S.F.S.F. was —' linked ' is the word, I guess—with some big-time Washington scandal that's going to break. Here." He poked a wad of paper at Novak. "I thought he was making it up. He doesn't believe in space flight and he's a real joker, but he showed me this. He tore it off their teletype."

Novak unfolded the wad into a long sheet of cheap paper, torn off at the top and bottom.

BLUE NOSE AND A PURPLE GOATEE.
HA HA THATS A GOOD ONE. U KNOW ABT BISHOP OF BIRMINGHAM ???
SURE WHO DONT. OGOD THREE AM AND THREE HOURS TO GO. LOOK WHOS BITCHING. HERE ITS SIX AM AND SIX HOURS TO GO. WISH ID LEARNED A TRADE OR STAYED IN THE NAVY.
WHAT U DO IN NAVY ???
TELETYPE OPR. CANT GET AWAY FROM DAM PTRS SEEMS AS IF.
MIN FONE
WHO WAS IT ???
ELEANOR ROOSEVELT ASKING FOR A DATE U NOSY BASTRD
HA HA OGOD WOTTA SLO NITE. ANY NUZ UR SIDE ???
NOT YET. FIRST CAST HALF HOUR. NUZMAN CAME IN WITH RUMOR ABT SOME UR LOCAL SCREWBALLS TO WIT LOS ANGELES SPACE FLITE CLUB.
HEY HEY. NUZRITER HERE GOT KID BROTHER IN CLUB. WOT HE SAY ???
SAID STRICTLY PHONY OUTFIT WITH WA TIEUP TOP ADMININXXX
ADMINISTRATION GOT IT FINALLY FIGURES.
GOVT MONEY GOES TO CLUB AND CLUB KIX BACK TO

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GOVT OFFICIALS. SWEET RACKET HUH.
MORE ???
NO MORE. MIN I ASK. SAYS GOT IT FM BENNET NUZ SVC MAN.
NO MORE.
TNX. COFFE NOW.
WELCM. DONT SPILL IT.
HA HA U R A WIT OR MAYBE I AM ONLY HALF RITE.

Nearing said as Novak looked up from the paper: "Of course Charlie may have punched it out himself on a dead printer just to worry me." He laughed uncomfortably. "Oh, hell. It's just a

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rumour about a rumour. But I don't like them tossing *Proto's* name around. She's a good girl." His eye sought the moon ship, gleaming in the morning sun.

"Yes," Novak said. "Look, Nearing. I'm tightening up the guard schedule and I'm going to be very busy. I'd like to turn the job of handling the guard detail over to you. I'll put you on salary, say fifty a week, if you'll do it."

"Fifty? Why sure, Dr. Novak. That's about what I'm getting at the shoe store, but the hell with it. When do I start and what do I do?"

"Start now. I want two guards on duty at all times. Not under twenty-one, either. At night I want one guard at the gate and one patrolling the fence. I want strict identification of all strangers at the gate. I want newspapermen kept out. I want you to find out what kind of no-trespassing signs we're legally required to post and how many—and then post twice as many. I want you to get the huskiest youngsters you can for guards and give them night sticks." He hesitated. "And buy us two shotguns and some shells."

The boy looked at Novak and then at the *Prototype* and then at Novak again. "If you think it's necessary," he said quietly. "What kind of shells—bird shot?"

"Buckshot, Nearing. They're after her."

"Buckshot it is, Dr. Novak," the shoe clerk said grimly.

He worked all morning in the machine shop, turning wooden core patterns for the throat liner on the big lathe. Laminated together and rasped smooth, they would be the first step in the actual fabrication of the throat liner. Half a dozen youngsters showed up, and he put them to work routing out the jacket patterns. Some of the engineer-members showed up around noon on their Sunday visits and tried to shop-talk with him. He wouldn't shop-talk.

At three in the afternoon Amy Stuart was saying to him firmly: "Turn that machine off and have something to eat. Nearing told me you didn't even have breakfast. I've got coffee, bologna on white, cheese on rye—"

"Why thanks," he said, surprised. He turned off the power and began to eat at a workbench.

"Sorry they pulled rough stuff on you," she said.

"Rough?" he snorted. "That wasn't rough. Rough is what's coming up." Between bites of sandwich he told her about the teletype chatter.

"It's starting," she said.

The next day the dam broke.

Reporters were storming the gate by mid-morning. In due course a television relay truck arrived and from outside the fence peered at them with telephoto lenses.

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"Find out what it's all about, Nearing," Novak said, looking up from his pattern making.

Nearing came back with a sheaf of papers. "They talked me into saying I'd bring you written questions."

"Throw 'em away. Fill me in in twenty seconds or less so I can get back to work."

"Well, Senator Hoyt's going to make a speech in the Senate today and he's wired advance copies all over hell. And it's been distributed by the news agencies, of course. It's like the rumour. He's going to denounce Daniel Holland, the A.E.C. general manager. He says Holland is robbing the Treasury blind by payments to the A.S.F.S.F. and Western Air, and getting kickbacks. He says Holland's incompetence has left the U.S. in the rear of the atomic weapons parade. Is my time up?"

"Yes. Thanks. Try to get rid of them. If you can't, just make sure none of them get in here."

There were days when he had to go into town. Sometimes people pointed him out. Sometimes people jostled him and he gave them a weary stare and they either laughed nervously or scowled at him, enemy of his country that he was. He was too tired to care deeply. Hr was working simultaneously on the math, the controls, installation of the tanks, and the setup for forming the liner and vane.

One day he fainted while walking from the machine shop to the refractories lab. He came to in his cot and found Amy Stuart and her father's Dr. Morris in attendance.

"Where did you come from?" he asked dimly.

Dr. Morris growled: "Never mind where I came from. You ought to be ashamed of yourself, Novak. Playing the fool at your age! I'm telling you here and now that you are going to stay in bed for forty-eight hours and you are not going to use the time to catch up on your paper work either. You are going to sleep, eat, read magazines—*not* including the *Journal of Metallurgical Chemistry* and things on that order—and nothing else."

"Make it twenty-four hours, will you?" said Novak.

"All right," Dr. Morris agreed promptly and Novak saw Amy Stuart grin.

Novak went to sleep for twelve hours. He woke up at eleven p.m., and Amy Stuart brought him some soup.

"Thanks," he said. "I was thinking—would you get me just the top sheet from my desk? It won't be *work*. Just a little calculation on heat of forming. Really, I'd find it relaxing."

"*No*," she said.

"All right," he said testily. "Did the doctor say you had to keep a twenty-four hour guard on me?"

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" He did not," she told him, offended. " Please excuse me. There are some magazines and newspapers on the table." She swept out and he wanted to call after her, but . . .

He got out of the cot and prowled nervously around the room. One of the papers on the table was the Los Angeles paper of the Bennet chain.

HOYT DARES "ILL" HOLLAND TO SHOW M.D. PROOF!

shrieked its banner headline. Novak swore a little and climbed back into the cot to read the paper.

The front-page first-column story was all about Hoyt daring "ill" Holland to show M.D. proof. Phrases like "since Teapot Dome" and "under fire" were liberally used. Also on the front page a prominent officer of a veterans' organisation was quoted as daring "ill" Holland to show M.D. proof. So were a strident and aging blonde movie actress, a raven-haired, marble-browed touring revivalist, and a lady Novak had never heard of who was identified as Washington's number-one hostess. The rest of the front page was given over to stories from the wire services about children rescuing animals from peril and animals rescuing children from peril.

Novak swore again, a little more strongly, and leafed through the paper. He encountered several pages of department store ads and finally the editorial page and feature page.

The double-column, heavily-leaded editorial said that no reasonable person could any longer ignore the cold facts of the A.E.C.-Western Air-rocket-crackpot scandal. Beyond any doubt the People's money and the People's fissionable material—irreplaceable fissionable material —was being siphoned into a phony front for the greed of one man.

For Bennet patrons who wanted just the gist of the news, or who didn't read very well, there was the cartoon. It showed a bloated, menacing figure, labelled " Dan Holland," grinning rapturously and ladling coins and bills from a shoe-box Treasury Building into his pockets. There was one ladle in each hand, one tagged " Western Aircraft " and the other " Rocket Crackpots." A tiny, rancid, wormy, wrinkled old man was scooting in a wheel chair in circles about the fat boy's ankles, picking up coins Holland carelessly let dribble from the overflowing ladles. That was Wilson Stuart, former test pilot, breaker of speed and altitude records, industrialist whose aircraft plants covered a major sector of America's industrial defence line. Other little figures were whizzing in circles astride July-fourth rockets. They also were grabbing coins. Wild-eyed and shaggy under mortar-board hats, they were the rocket crackpots.

On the opposite page there was something for everybody.

For the women there was a column that wept hot tears because all America's sons, without exception, were doomed to perish miserably

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on scorching desert sands, in the frozen hell of the Arctic, and in the steamy jungles of the Pacific, all because of Daniel Holland. "How long, O Lord, how long?" asked the lady who wrote the column.

For the economist there was a trenchant column headed: "This Is Not Capitalism." The business writer who conducted the column said it wasn't capitalism for Western Air's board of directors to shilly-shally and ask Wilson Stuart exactly where he stood vis-a-vis Daniel Holland and what had happened to certain million-dollar appropriations rammed through under the vague heading of "research." Capitalism, said the business writer, would be for Western Air's board to meet, consider the situation, fire Stuart, and maybe prosecute him. Said the business writer: "The day of the robber barons is past."

For the teen-ager there was a picture of a pretty girl, holding her nose at some wiggly lines emanating from a picture of the Capitol dome. Accompanying text:

"Joy-poppers and main-liners all, really glom onto what Mamaloi's dishing this 24. I don't too often get on the sermon kick because young's fun and you're a long time putrid. But things are happening in the 48 that ain't so great so listen, mate. You wolves know how to handle a geek who glooms a weenie-bake by yacking for a fat-and-40 blues when the devotees know it's tango this year. Light and polite you tell the shite, and if he doesn't dig you, then you settle it the good old American way: five-six of you jump him and send him on his meddy way with loose teeth for a soo-ven-war. That's Democracy. Joy-poppers and mainliners, there are grownups like that. We love and respect Mom and Dad even if they are fuddy-duddy geeks; they can't help it. But what's the deal and hoddya feel about a grownup like Danny-O Holland? And Wheel-chair Wilson Stuart? And the crackpot cranks with leaky tanks that play with their rockets on dough from your pockets? Are they ripe for a swipe? Yeah-man, Elder. Are their teeth too tight? Ain't that man right! Sound off in that yeah-man corner, brethren and cistern! You ain't cackin', McCracken! So let's give a think to this stink for we, the youths of America today, are the adults of America tomorrow."

For those who vicariously live among the great there was the Washington column. "Local jewellers report a sharp, unseasonal drop in sales. Insiders attribute it to panic among the ranks of Dan (Heads-I-Win-Tails-You-Lose) Holland and his little Dutch Boys over the fearless exposé of his machinations by crusading Senator (Fighting Bob) Hoyt. Similar reports in the trade from the West Coast, where Wilson (Wheel-Chair) Stuart and the oh-so-visionary-but-where's-the-dough pseudo-scientists of the A.S.F.S.F. hang out. Meanwhile Danny Boy remains holed up in his swank ten-room penthouse apartment claiming illness. Building employees say however that not one of his many callers during the past week has carried the little black bag that is the mark of the doctor! . . . What man-about-Washington

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has bought an airline ticket and has his passport visaed to Paraguay, a country where officials are notorious for their lack of co-operation in extradition proceedings—if their palms are properly greased ? "

For lovers of verse there was a quatrain by one of the country's best-loved kindly humourists. His whimsical lines ran:

They say Dan Holland will nevermore
Go anywhere near a hardware store.
He'll make a detour by train or boat
Because he knows he should cut his throat.

Novak smiled sourly at that one, and heard a great tooting of horns. It went on, and on, and on, and on. Incredulously he clocked it for three solid minutes and then couldn't take any more. He pulled on his pants and strode from the pre-fab into a glare of headlights. There were jalopies, dozens of them, outside the fence, all mooing.

Nearing ran to him. " You ought to be in bed, Dr. Novak ! " he shouted. " That doctor told us not to let you——"

" Never mind that ! What the hell's going on ? " yelled Novak, towing Nearing to the gate. The two guards were there—husky kids, blinking in the headlights. They'd been having trouble filling the guard roster, Novak knew. Members were dropping away faster every day.

" Kids from L.A.! " Nearing shouted in his ear. " Came to razz us ! "

A rhythmical chant of " *O*-pen *up* ! " began to be heard from the cars over the horns.

Novak bawled at them: " Beat it or we'll fire on you ! " He was sure some of them heard it, because they laughed. One improbably blonde boy in a jalopy took it personally and butted his car into the rocket field's strong and expensive peripheral fence. It held under one car's cautious assault, but began to give when another tanker joined the blonde.

" All right, Eddie ! " Novak shouted to the elder of the gate guards. " Take your shotgun and fire over their heads." Eddie nodded dumbly and reached into the sentry box for his gun. He took it out in slow motion and then froze.

Novak could understand, even if he couldn't sympathize. The glaring headl ghts, the bellowing horns, the methodical butting of the two mastodans, the numbers of them, and their ferocity. " Here," he said, " gimme the goddam thing." He was too sore to be scared; he didn't have time to fool around. The shotgun boomed twice and the youth of America shrieked and wheeled their cars around and fled.

He handed back the shotgun and told Eddie: " Don't be scared, son." He went to the phone in the machine shop and found it was working tonight. People had been cutting the ground line lately.

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He got the Stuart home. " Grady ? This is Dr. Novak. I want to talk to Mr. Stuart right away and please don't tell me it's late and he's not a well man. I know all that. Do what you can for me, will you?"

" I'll try, Dr. Novak."

It was a long, long wait and then the old man's querulous voice said: " God almighty, Novak. You gone crazy ? What do you want at this time of night ? "

Novak told him what had happened. " If I'm any judge," he said, " we're going to be knee-deep in process servers, sheriff's deputies, and God-knows-what-else by tomorrow morning because I fired over their heads. I want you to dig me up a real, high-class lawyer *and fly him out here tonight.*"

After a moment the old man said: " You were quite right to call me. I'll bully somebody into it. How're you doing ? "

" I can't kick. And thanks." He hung up and stood irresolutely for a moment. The night was shot by now—he'd had a good, long rest anyway——

He headed for the refractories lab and worked on the heat of composition. He cracked it at six a.m. and immediately started to compound the big batch of materials that would fuse into the actual throat-liner parts and steering vane. It was a grateful change of pace after working in grams to get going on big stuff. He had done it by ten-thirty and got some coffee.

The lawyer had arrived: a hard-boiled, lantern-jawed San Francisco Italian named DiPietro. " Don't worry," he grimly told Novak. " If necessary, I'll lure tham on to the property and plug 'em with my own gun for trespassing. Leave it in my hands."

Novak did, and put in an eighteen-hour stretch on fabricating pieces of the throat liner. Sometime during the day Amy Stuart brought him some boxes and he mumbled politely and put them somewhere.

With his joints cracking, he shambled across the field, not noticing that his first automatic gesture on stepping out of the shop into the flood-light area was to measure the *Prototype* with his eye in a kind of salute.

" How'd it go ? " he asked DiPietro.

" One dozen assorted," said the lawyer. " They didn't know their law and even if they did I could have bluffed them. The prize was a little piece of jail-bait with her daddy and shyster. Your shotgun caused her to miscarry; they were willing to settle out of court for twenty thousand dollars. I told them our bookkeeper will send his bill for five hundred dollars' worth of medical service as soon as he can get around to it."

" More tomorrow ? "

" I'll stick around. The word's spread by now, but there may be a couple of die-hards."

Novak said: " Use your judgment. Believe I can do some work on the servos before I hit the sack."

The lawyer looked at him speculatively, but didn't say anything.

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XVII.

A morning came that was like all the other mornings except that there was nothing left to do. Novak wandered disconsolately through the field, poking at this detail or that, and Amy came up to him.

"Mike, can I talk to you?"

"Sure," he said, surprised. Was he the kind of guy people asked that kind of question?

"How are the clothes?"

"Clothes?"

"Oh, you didn't even look. Those boxes. I've been shopping for you. I could see you'd never have time for it yourself. You don't mind?"

There it was again. "Look," he said, "have I been snapping people's heads off?"

"Yes," she said in a small voice. "You didn't know that, did you? Do you know you have a week-old beard on you?"

He felt it in wonder.

"I've never seen anything like it," she said. "The things you've accomplished. Maybe nobody ever saw anything like it. It's finished now, isn't it?"

"So it is," he said. "I didn't think—just installing the last liner segment and hooking on the vane. Mechanical oper——

"*God, we've done it!*" He leaned against one of *Proto's* delta fins, shaking uncontrollably.

"Come on, Mike," she said, taking his arm. She led him to his camp cot and he plunged into sleep.

She was still there when he woke, and brought him coffee and toast. He luxuriated in the little service and then asked abashedly: "Was I pretty bad?"

"You were obsessed. You were a little more than human for ten days."

"Holland!" he said suddenly, sitting full up. "Did anybody—"

"I've notified him. Everything's going according to plan. Except —you won't be on the moon ship."

"What are you talking about, Amy?"

She smiled brightly. "The counter-campaign. The battle for the public being waged by those cynical, manipulating, wonderful old bastards, Holland and my father. Didn't you guess what my part in it was? I'm a pretty girl, Mike, and pretty girls can sell anything in America. I'm going to be the pilot—hah! pilot!—of the first moon ship. So gallant, so noble, and such a good figure. I'm going to smile nicely and male America will decide that as long as it can't go to bed with me, the least it can do is cheer me on to the Moon."

She was crying. "And then I showed I was my father's daughter. The cynical Miss Stuart said we have a fireworks display in the takeoff, we have conflict and heroism, we have glamour, what we need is some

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nice refined sex. Let's get that dumb engineer Novak to come along. A loving young couple making the first trip to the Moon. Irresistible. Pretty girl, handsome man—you *are* handsome without that beard, Mike." She was crying too hard to go on. He mechanically patted her shoulder.

Her sobs abated. "Go on," he said.

"Nothing to go on about. I told 'em I wouldn't let you go. I love you too much."

His arm tightened around her. "That's all right," he said. "I love you too much to let you go without me."

She turned her tear-stained face to him. "You're not going to get noble with *me*——" she began. And then: "Ouch! Mike, the beard!"

"I'll shave," he said, getting up and striding to the lab sink.

"Don't cut yourself, Mike," she called after him. "But—please hurry!"

There was one crazy, explosive week.

There was something in it for everybody. It was a public relations man's dream of heaven.

Were you a businessman? "By God, you have to give the old boy credit! Slickest thing I ever heard of—right under the damn Reds' noses, stuck right out there in the desert and they didn't realise that a rocket ship was a rocket ship! And there's a lot of sense in what Holland had to say about red tape. Makes you stop and wonder—the armed services fooling around for twenty years and not getting to first base, but here this private club smacks out a four-bagger first time at bat. Illegal? Illegal? Now mister, be sensible. Don't get me wrong; I'm not any admirer of the late F.D.R., but he did get us the atom bomb even if he did practically hand it to the Reds right after. But my point is, F.D.R. didn't go to Congress with a presidential message that we were going to try to make an atomic bomb. He just quietly diverted the money and made one. Some things you have to do by the book; others you just plain can't. For my money, Dan Holland's a *statesman*."

Were you a girl? "Oh, that dreamy man Mike! It just chills me when I think of him flying all the way to the Moon, but it's kind of wonderful, too. Did you ever notice the way he's got kind of a dimple but not quite on the left when he smiles?"

Were you a man? "Amy's got real looks and class. Brains, too, they tell me, and God knows, she's got guts. The kind of girl you'd want to *marry*, if you know what I mean. He's a lucky guy."

Were you old folks? "Such a lovely couple. I don't know why more young people aren't like that nowadays. You can see how much they're in love, the way the look at each other. And the idea of them going to the Moon! I certainly never thought I'd see it in my time,

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though of course I knew that some day . . . Perhaps their rocket ship won't work. No, that's absurd. Of course it'll work. They look so nice when they smile at each other ! "

Were you young folks ? " I can't get over it. Just a pair of ordinary Americans like you and me, a couple of good-looking kids that don't give a damn and they're going to shoot off to the Moon. I saw them in the parade and they aren't any different from you and me. I can't get over it."

Were you a newspaper publisher ? " Baby, this is *it* ! The perfect cure for that tired feeling in the circulation department. I want *Star-Banner-Bugle-and-Times-News* to get Mike-and-Amy conscious and stay that way. Pictures, pictures, pictures. Biographies, interviews with roommates, day-by-day coverage, our best woman for Amy and our best man for Mike. The hell with the cost; the country's on a Mike-and-Amy binge. And why shouldn't it be ? A couple of nice young kids and they're going to do the biggest thing since the discovery of fire. A landmark in the history of the human race ! And confidentially, this is what a lot of the boys have been waiting for with Bennet. Naturally only a dirty Red rag would attack a fellow-publisher, but I don't see any ethical duty to keep me from sawing off a limb Bennet crawled out on all by himself. He's mouse-trapped. To keep his hard core of moron readership he's got to keep pretending that *Proto's* still a fake and Holland's still a crook and only taper off slowly. I'm almost sorry for the dirty old man, but he made his bed."

Were you a congressman ? " Hmmm. Very irregular. In a *strict* sense illegal. Congress holds the purse strings. Damn uppity agencies and commissions. Career men. Mike and Amy. Wonder if I could get photographed with them for my new campaign picture. Hmmm."

On the fourth day of the crazy week they were in Washington, in Holland's office.

" How's it going ? " he demanded.

" I don't know how MacArthur stood it at his age," Amy muttered.

There was a new edition to Holland's collection of memorabilia on the wall behind his desk: a matted and framed front page from the New York *Times*.

HOLLAND BREAKS SILENCE, CALLS ASFSF NO FRONT
SAYS CLUB HAS MOON SHIP READY TO MAKE TRIP
WILSON STUART DAUGHTER, ENGINEER TO PILOT

The agitation of the *Times* was clearly betrayed in the awkwardly rhyming second line.

" The Air Force gentlemen are here, Mr. Holland," said the desk intercom.

" Send them in, Charlie."

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Three standard-brand Air Force colonels, one general and an off-brand captain walked in. The captain looked lost among his senior officers, six-footers all. He was a shrimp.

"Ah, gentlemen. General McGovern, Colonels Ross, Goldthwaite, and Behring. And the man you've been waiting to meet, Captain Dilaccio. Gentlemen, you know Amy and Mike, of course. Please be seated."

They sat, and there was an ugly pause. The general exploded, almost with tears in his voice: "*Mister* Holland, for the last time. I will be perfectly frank with you. This is the damn'dest, most unreasonable thing I ever heard of. We have the pilots, we have the navigators, we have the experience, and we ought to have the moon ship!"

Holland said gravely: "No, General. There's no piloting involved. The landing operation simply consists of putting the throat-vane servo on automatic control of the plumb bobs and running in the moderator rods when you hit. The navigation is child's play. True, the target is in motion, but it's big and visible. And you have no experience in moon ships."

"*Mister* Holland——" said the general.

Holland interrupted blandly. "And even if there were logic on your side, is the public deeply interested in logic? I think not. But the public is deeply interested in Amy and Mike. Why, if Amy and Mike were to complain that the Air Force had been less than fair with them—"

His tone was bantering, but McGovern broke in, horrified: "No, no, no, no, Mr. Holland! They aren't going to do anything like that, are they? Are you?"

Holland answered for them. "Of course not, General. They have no reason to do anything like that—do they?"

"Of course not," the general said glumly. "Captain Dilaccio, good luck." He and the colonels shook hands with the puny little captain and filed out.

"Welcome to the space hounds," Novak told Dilaccio, trying to be jovial.

The captain said indistinctly: "Pleasure'm sure."

On the flight back to Barstow he didn't say much else. They knew he had been chosen because he was (a) a guided-missile specialist, (b) single and with no close relations, (c) small and endowed with a singularly sluggish metabolism. He was slated for the grinding, heartbreaking, soul-chilling job of surviving in a one-man pressure dome until the next trip brought him company and equipment.

On the seventh day of the crazy week, Daniel Holland heard somebody behind him say irritably: "Illegal? Illegal? No more illegal than Roosevelt taking funds and developing the atomic bomb. Should he have gone to Congress with a presidential message about it? It was the only way to do it, that's all."

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Holland smiled faintly. It had gone over. The old clichés in their mouths have been replaced by new clichés. The sun blazed into his eyes from the polished shell of the moon ship, but he didn't turn or squint. He was at least a sub-hero today.

He caught a glimpse of MacIlheny as the band struck up the sedate, eighteenth-century "President's March." MacIlheny was on the platform, as befitted the top man of the A.S.F.S.F., though rather far out on one of the wings. MacIlheny was crying helplessly. He had thought he might be the third man, but he was big-bodied and knew nothing about guided missiles. What good was an insurance man in the Moon?

The President spoke for only five minutes, limiting himself to one humourous literary allusion. ("This purloined letter—stainless steel, thirty-six-feet, plainly visible for sixty miles.") Well, *he* was safely assured of his place in history. No matter what miracles of statesmanship in war or peace he performed, as long as he was remembered he would be remembered as President during the first moon flight. The applause was polite for him, and then slowly swelled. Amy and Mike were walking arm in arm down a hollow column of M.P.s, Marines and A.F.P.s. Captain Dilaccio trailed a little behind them. The hollow column led from the shops to the gantry standing beside *Proto*.

Holland felt his old friend's hand grip his wrist. "Getting soft, Wilson?" he muttered out of the corner of his mouth.

The old man wouldn't be kidded. "I didn't know it would be like this," he said hoarsely. Amy's jacket was a bright red patch as the couple mounted the stand and shook hands with the President. Senile tears were running down Wilson Stuart's face. Great day for weeping, Holland thought sullenly. All I did was hand the U.S. the Moon on a silver platter and everybody's sobbing about it.

The old man choked: "Crazy kid. Daniel, what if she doesn't come back?"

There was nothing to say about that. But—— "She's waving at you, Wilson!" Holland said sharply. "Wave back!" The old man's hand fluttered feebly. Holland could see that Amy had already turned to speak to the President. God, he thought. They're *hard*.

"Did she see me, Dan?"

"Yes. She threw you a big grin. She's a wonderful kid, Wilson." Glad I never had any. *And* sorry, too, of course. It isn't that easy, ever, is it? Isn't this show ever going to get on the road?

The M.P.s, Marines, and A.F.P.s reformed their lines and began to press back the crowd. Jeeps roared into life and began to tow the big, wheeled reviewing stand slowly from the moon ship. With heart-breaking beauty of flowing line, Amy swung herself from the platform to the hoist of the gantry crane. Mike stepped lightly across the widening gap and Captain Dilaccio—Good God, had the President even spoken to him?—jumped solidly. Mike waved at the craneman and the hoist rose with its three passengers. It stopped twenty-five

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feet up, and there was clearly a bit of high-spirited pantomime, Alphonse-and-Gaston stuff, at the manhole. Amy crawled through first and then she was gone. Then Dilaccio and then Novak, and they all were gone. The manhole cover began to close, theatrically slow.

"Why are we here?" Novak wondered dimly as the crescent of aperture became knifelike, razorlike, and then vanished. What road did I travel from Canarsie to here? Aloud he said: "Preflight check; positions, please." He noted that his voice sounded apologetic. They hunkered down under the gothic dome in the sickly light of a six-watt bulb. Like cave people around a magic tree stump they squatted around the king-post top that grew from the metal floor.

"Oxygen-CO_2 cycle," he said.

That was Dilaccio's. He opened the valve and said, "Check."

"Heater." He turned it on himself and muttered, "Check."

Novak took a deep breath. "Well, next comes fuel metering and damper rods—oh, I forgot. Amy, is the vane servo locked vertical?"

"Check," she said.

"Right. Now, the timers are set for thirty seconds, which is ample for us to get to the couches. But I'd feel easier if you two started now so there won't be any possibility of a tangle."

Amy and Dilaccio stood, cramped under the steep-sloping roof. The captain swung into his couch. Amy touched Mike's hand and climbed to hers. There was a flapping noise of web belting.

"Check."

"All secure," said Dilaccio.

"Very good. *One*—and *two*." The clicks and the creak of cordage as he swung into his couch seemed very loud.

Time to think at last. Canarsie, Troy, Corning, Steubenville, Urbana, N.E.P.A., Chicago, Los Angeles, Barstow—and now the Moon. He was here because his parents had died, because he had inherited some skills and acquired others, because of the leggy tough sophomore from Troy Women's Day, because Holland had dared, because he and Amy were in love, because a Hanford fission product had certain properties, because MacIlheny was MacIlheny——

Acceleration struck noiselessly; they left their sound far behind.

After a spell of pain there was a spell of discomfort. Light brighter than the six-watt bulb suddenly flooded the steeple-shaped room. The aerodynamic nose had popped off, unmasking their single port. You still couldn't pick yourself up. It was like one of those drunks when you think you're clearheaded and are surprised to find that you can't move.

She should have spent more time with her father, he thought. Maybe she was afraid it would worry him. Well, he was back there now with the rest of them. Lilly, paying somehow, somewhere, for what

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she had done. Holland paying somehow for what he had done. MacIlheny paying. Wilson Stuart paying.

"Mike," said Amy's voice.

"All right, Amy. You?"

"I'm all right."

The captain said: "All right here."

A common shyness seemed to hold them all, as though each was afraid of opening the big new ledger with a false or trivial entry.

Cyril M. Kornbluth.

THE END

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When the thunder and fury of the atomic experiment had died away the investigators discovered an unexpected feature—a tiny lambent flame which could not be extinguished. It was as though it had a sentient life of its own.

FIRE!

By Burgess Browne

Olaf sighed despondently; the desert seemed to have eaten into his very soul. For six months he had yearned for the city lights, andeven more so for the soft embrace of Evelyn. He was tired of the launching base, wearied by the continued checking of instruments, the constant removal of the fine sand particles which attacked their mechanism; above all he was exhausted by the interminable heat.

Luckily it would soon be over ! His thoughts sped back to Evelyn and the elysium of her love. He was determined to marry her on his next leave and then never to return to this blistered waste. Now he had but to wait until the Bad Penny had been fired, then all the scientists could go on leave. How they needed it ! For months they had swarmed around the giant nuclear bomb, and had prepared the dummy city, which now stretched in a ribbon of concrete and steel over twenty miles long. They had supervised the building of houses, schools, offices, and the installation of all the complexities found in a great modern metropolis. Exactly in the middle stood the ominous angular skeleton of a tower which carried the Bad Penny. Soon the bomb would explode and devastate the doomed city. The defence squads would assess the results and return valuable data to defence headquarters, information which would be so absolutely comprehensive, even extending to telemetered radiation counts from the life-like

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dummies which populated the place, and which, at the moment, made it resemble some gigantic bizarre waxworks.

Now everyone awaited the explosion. In a few moments the top of the tower would erupt into blazing incandescence, and Linetown—as they all called it—would be no more. Olaf retained no feeling of excitement; he had seen too many of these tests to evince much interest in the current one, other than that it was the last of a long series responsible for his exile. Nevertheless, after the loudspeaker had boomed out the final seconds he could not help cringing away from the blast and the awful noise.

Peace descended once more on the desert as the great mushroom of smoke and dust climbed majestically into the upper atmosphere. Swarms of technicians, strangely garbed in their protective clothing, entered the remains of Linetown and while fire pumps poured water and chemicals on to burning buildings, chaos was evaluated to ten places of decimals. The data commenced to flow back to headquarters; everything was going according to plan—almost.

Close to ground zero, and contrary to all experience, the powdered ruins of a stone house were blazing furiously, despite the combined efforts of several pump crews. Olaf was passing the place on his way to check one of the instruments and he noticed the section fire chief looking decidedly worried. By all natural fire-fighting laws the blaze should have been extinguished within minutes. Olaf slowed his pace, and then stopped to watch as the fire continued to dance merrily over the broken stones; it even appeared that sometimes the flames spread out with renewed vigour when a stream of chemicals hit them.

The fire chief ordered up more pumps, and soon the small heap of blazing rubble formed the centre of a ring of vehicles, from which streams of anti-fire liquids converged on the flames.

Then a screaming siren heralded the approach of a senior official. After jumping from the jeep before it came to a standstill, a burly man pushed his way through the crowd and addressed the fire chief.

"What the hell is going on here?"

The fireman's harrassed face, reflecting a red glow from the spreading fire, turned to the newcomer in despair.

"We've tried everything, sir, we just can't extinguish this blaze."

His words were accentuated by a sudden upsurge of flame which made one of the fire crews draw back hurriedly.

"Look!" someone exclaimed. "Even the stone is burning!"

Olaf craned his neck forward, and gasped with incredulity. To his amazement he could see the fire rapidly changing the stones to grey ash. He noticed something else; each flame seemed to grow, give rise to smaller ones, and then subside. Some of the new tiny flames quickly died, but others grew in intensity and then broke up to repeat the cycle. There was no smoke; the flames consumed completely. He was quite puzzled by this unnatural phenomenon.

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Then, quite abruptly, as if at some word of command, the flames moved outwards, attaching themselves to the nearest objects, pumps, vehicles——men. With astonishing rapidity they spread on their new hosts, completely enveloping them within a fraction of a second. Olaf staggered back in alarm, and ran for his life as the men in front of him and on either side became flaming torches.

He escaped. How, he did not know or care. Blindly he fled across the desert until his labouring lungs brought him sobbing to his knees. After a few minutes of helpless hysteria he regained his control and rose to look back towards Linetown. The centre of the line of broken buildings and piled rubble was well aflame, while a few small fires could be seen burning in the desert nearer to him. He shuddered with horror when he realised what their fuel had been a few minutes before.

Over to his left he saw a group of soldiers with a jeep, and he ran towards them. They took him back to base, five miles from Linetown, over the 1,000 foot bridge. He found that a few other people had drifted back also, and rumours were spreading almost as quickly as the flames which had given rise to them. Linetown burned all night, illuminating the eastern sky with a brilliant red glow. Several fire-fighting crews went out to the devastated mock city, but none returned. In the morning Olaf joined a number of his fellow technicians on the summit of the ridge, and surveyed the awesome scene. Linetown was a streak of fire across the desert; it was alive with flames which had a brilliance intolerable to unprotected eyes.

Speculations were many, and included the inevitable postulation as to whether the nuclear explosion had started an uncontrolled chain reaction in common elements. The fact that the flames were now spreading across the desert towards the base camp tended to support this hypothesis—at least until someone questioned why they should spread in one direction only.

The passage of an hour made it quite obvious that the area of flame was deserting Linetown and moving bodily across the sand towards the ridge. Olaf was certain that he detected a quickening surge forward as the flame front neared an observation building at the base of the ridge, and enveloped it with eager haste. For a while the flames halted at this new source of combustible material, but soon the building was reduced to grey ash and the flame front's ascent of the ridge began.

All this had not passed unobserved by the controllers at the base camp, and a line of pumps was soon deployed along the ridge. Foam nozzles were directed towards the approaching flames, while all non-essential personnel, Olaf amongst them, were ordered back to the headquarters.

In the town associated with the base camp the children stayed away from school that day, and few of their elders completed the day's work.

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Ten thousand pairs of eyes watched the ridge where the dark silhouettes of the pumps stood out against the hard blue background of the sky. Fire crews were periodically relieved, and once Olaf was pressed into duty as a messenger. He reached the top of the ridge late in the afternoon and once more saw the peculiar flame formation. By this time the fire had ascended half way up the slope, but the flames were mere shadows of their former brilliance. It was as if their climb over the bare rocks had exhausted them. Olaf was hopeful that they would never reach the top. However, he could not wait to satisfy himself on this point, as he was ordered back to the base as soon as he had delivered his messages. In the headquarters town there were few people who slept that night. True there was nothing spectacular to see, no brilliant red glow lighting the sky as it had done on the previous night, indeed, nothing unusual that a visitor from civilization would have been able to detect; except, of course, the red, weary and frightened eyes of the population. Had he looked towards the ridge, a stranger would have seen it outlined by a fitful glimmer against the skyline—nothing else.

It was just after midnight when the flames came near to the pumps. In the town the waiting people heard the sound of the motor begin its throbbing through the still night air. A great sigh rose from the thousands of watchers, but nothing further happened. The roar of the pumps became an unending drone. Then, just as another hour elapsed, the first flame licked over the top of the ridge. Momentarily it winked like a faint star rising through low cloudbanks, and the watchers below held their breath. Then, within seconds, a flaming line of vehicles and screaming men burst into searing visibility. The defenders of the ridge had failed!

By mid-day it was apparent that the flames were still spreading—maybe advancing would be a more accurate term—towards the base camp, and the town behind it. Plans for evacuation were hurriedly made, and plane after plane loaded with women and children soared up from the airport. As the day wore on everyone could see that the uncanny flames, flowing from the ridge like a lava stream, would reach the outskirts of the town before even one-eighth of the occupants could be moved. Every available vehicle was pressed into operation to help with the evacuation, while emergency centres were set up several miles away in the desert.

However valiant these efforts were, little had really been accomplished before the town was consumed. Like avenging demons the flames attached themselves to every building, every organic object alive or dead, and spread with incredible rapidity.

Olaf was picked up next day by helicopter. He was one of a pitifully few survivors. Later, as he was arriving at the hospital, a hundred miles to the east, the first majestic delta bomber released its hydrogen bombs

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over the inferno that had been the populous base town. Companion planes followed in quick succession, and the desert, mercifully hidden by a shattering brilliance too great for human eyes to register, changed into a seething cauldron of molten silica. Many hours later, when the holocaust, but not all the radiation, had subsided, high-flying observers were startled to discover a pocket of flame continuing to flicker on the area of desert where the town had been. Except in one tiny section the flames were weak and obviously fading. Gradually they died away —but they left one or two which were brighter and different in hue from their fellows. About the time when the last of the original flames disappeared the new ones began to multiply and spread. Faster and faster they reproduced, until a great area of intense fire spread over the fused sand and rocks. For a moment the flames halted at the boundary of the unfused sand, as though confused by the new substance, then swiftly they continued their expansion. Within forty-eight hours Earth was no longer a planet but had become a miniature sun.

Burgess Browne.

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FILM REVIEW

RIDERS TO THE STARS

HERBERT MARSHALL

MARTHA HYER RICHARD CARLSON

WILLIAM LUNDIGAN ROBERT KARNES

United Artists *Colour by Color Corporation*

Reviewing anything in the highly specialised science fiction or fantasy market calls for considerable caution, whether it is a book, a film or a play. The reviewer has to put aside his natural likes and dislikes and try to give a fair unbiassed summary, remembering that his audience will be of all ages, both sexes, and of widely differing views. His yard-stick must be only those items *that have already appeared* in the same medium, although he must bear in mind the general entertainment value compared with similar commodities outside the fantasy field.

Under those conditions the photoplay of Curt Siodmak's **Riders To The Stars** compares more than favourably with most of the other science fiction films, falling short of **Destination Moon** and **War Of The Worlds** only because of minor technicalities, some of which could have been eliminated on the sound track. It is quite evident that Producer Ivan Tors and Director Richard Carlson really tried to put over a first-class picture but overlooked the necessity for a good Technical Director who would have spotted some of the faults.

High altitude research rockets return to Earth with the molecular structure of their steel shells changed and weakened by cosmic ray bombardment. Herbert Marshall as scientist Doctor Stanton at White Sands Proving Ground is given the task of finding a remedy. A chance remark of Dr. Jane Flynn's (Martha Hyer), suggests that a solution may be found in the fact that meteors travel untold millions of miles through outer space without apparently being affected. Dr. Stanton gets the idea that if he sends several one-man rockets a few hundred miles up he may be able to catch a meteor and analyse it.

The search then starts for possible candidates and the files at the Pentagon in Washington eventually turn up twelve possible men who are "invited" to spend a short time at White Sands where they undergo continuous psychological and physical tests. These scenes are particularly well done, especially the centrifuge tests.

Eventually the choice narrows to three men—Dr. Stanton's son Richard (William Lundigan), Lockwood (Richard Carlson), and Gordon (Robert Karnes). Mount Palomar Observatory reports a

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meteor shower due on a certain date and the trio are readied for takeoff. Their purpose is to be boosted off the ground, gradually accelerating to twelve Gs at 175 miles, levelling out under manual control at a speed of 18,000 m.p.h., and creeping up on the meteors attempt to scoop one in through a chute in the nose of the rocket, thence returning to Earth under remote control and assisted by breaking rockets.

Shots of the takeoff are very fine indeed, being actual flight test pictures from genuine experiments. Subsequent shots of the Earth from high altitudes were also the real thing. It is, however, only when the reality is dropped and the studio takes over that an atmosphere of pseudo-scientific fantasy creeps in. The rocket models look like cardboard—one even zooms and dives about like a kite on a string; the meteors, bobbing and swaying like balls in a shooting gallery look like coloured tinsel on a Christmas tree. Then Gordon's rocket blows up—and across the airless void *you hear the explosion.* This un-nerves Lockwood who, in a frenzy to bale out, fires all his rocket tubes and disappears into the volcuum of space. Only Richard Stanton remains, and he, disobeying orders, uses up his reserve fuel in a final attempt to obtain a meteor.

He is brought down under remote control to a crash landing (at a speed which must have been over 1000 m.p.h.!) to learn that meteors are covered with a layer of compressed carbon. The producer cleverly evaded most of the crash-dive scene by centering the action in the control room but this did not entirely overcome the impossibility of the situation.

Apart from the plot climax (scooping meteors), and the various incongruities in space the acting and story were better than average, Martha Hyer admirably portraying a lady-scientist coupled with a slowly awakening love interest which enhances rather than detracts from the main theme. In fact, the film was excellent right up to the climax and then, like Gordon's ship, disintegrated through carelessness.

Due for general release on May 31st this is not the first screenplay by author Siodmak. Readers will remember his very recent film **Donovan's Brain** which was taken from his 1943 spine-chilling novel of the same name, and his still-famous earlier book and film **F.P.I. Does Not Reply,** centred round a floating platform in mid-Atlantic. He is at present working on a new script entitled **Steel Atlantis** which is patterned after the latter.

A book-of-the-film edition has just been published in New York by Ballantyne Books in their simultaneous bound and pocketbook series. Taken almost word for word from the script it is undoubtedly one of the worst science fiction books published in recent years, for where the screen play produced some very fine visual scenes to keep the story moving the book has not attempted to paint a mental picture for the reader to grasp any of the background details.

J.C.

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My remarks last month regarding the inevitable decline in the torrent of science-fiction anthologies would appear to be confounded by the appearance of three new books this month. But in so far as these are taken from American collections, a considerable backlog of which are still available for selection by British publishers, the home output will continue to flourish for some time yet. Particularly when, as in the case of John W. Campbell's *Astounding Science Fiction Anthology* the publishers have had to cut into several volumes the original monster edition which contained twenty-two magnificent stories.

Obviously then, the **First Astounding Science Fiction Anthology** (Grayson & Grayson, 9/6) is the favourite among the anthologies, and its superb collection of seven stories is essential reading for the mature science-fiction reader. Robert Heinlein's *Blowups Happen* was previously reprinted in his *Man Who Sold the Moon* but this version was revised in its scientific data following post-war atomic development ; here we have the original magazine story based on information available to the author in 1939. Eric Frank Russell's ability to depict realistically alien cultures, and to breathe life into his robust, humorous short stories is evident in *Hobbyist*, whilst the prolific Murray Leinster excels himself in *First Contact* telling of the first meeting between human space explorers and extra-solar aliens. William Tenn's hilarious *Child's Play* is nicely balanced by the sombre beauty of Theodore Sturgeon's *Thunder and Roses.* John Pierce's thought-provoking *Invariant* and James H. Schmitz' delightful *Witches of Karres* round off a memorable collection.

Beachheads In Space (Weidenfeld & Nicolson 9/6) contains seven stories of varying quality, but by omission misses the whole point of the original anthology of fourteen stories edited by August Derleth. In this Derleth considered the many newspaper reports of extra-terrestrial phenomena on which science-fiction writers have been speculating for decades and—intriguing thought !—contends that the fiction might possibly be recorded aspects of the future history of Earth and the Universe. By prefacing each story with an item from such scientific reports or conjectures, he weaved a fascinating theme of exploration of space, counter-invasion of earth and man in conflict with creatures of other worlds. For example, *Time* reports the deputy director of the United Nations Legal Division raising the question of

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who owns space and suggesting a kind of interplanetary admiralty law —leading into Clifford Simak's *Beachhead* illustrating a problem of future space explorers. This British edition merely offers the reader half the stories and leaves it at that. And when two of these are such pedestrian pieces as Donald Wandrei's *The Blinding Shadows* and *The Metamorphosis of Earth* by Clark Ashton Smith, the overall effect is somewhat diminished.

Future Tense (Bodley Head 10/6), conceals behind a ghastly jacket an exceedingly good anthology edited by Kendall Foster Crossen. Once again it is a watered-down version of the American original, which in some attempt at novelty contained seven new stories and seven reprints. Here we have two of the new stories plus five of the reprints. Of the former James Blish's *Beanstalk* is a long and most believable mutant story; and John D. Macdonald's *Incubation* is a brilliant vignette of ultimate regimentation and the means of its downfall. Among the revivals *The Plagiarist* by English writer Peter Phillips stands out (incidentally this was first published in *New Worlds*, *No.* 7).

Two novels are next on the list, each poles apart in theme, quality of writing and importance of contribution to science-fiction. Arthur C. Clarke's **Childhood's End** (Sidgwick & Jackson 10/6) is a major milestone in the meteoric career of this brilliant English scientist-author, but I do not think it marks the peak of his writing potential. It is superior to all his previous long novels but falls just short of the greatness which is yet to come. The theme is majestic—that of the extraordinary development of the human race under the benevolent supervision of the invisible alien Overlords, and its final surprising destiny. Some of the concepts are reminiscent of Olaf Stapledon, but the style bears the individuality of Clarke. The plot twists help, but the poetic beauty in *Against The Fall Of Night* is lacking. At last this publisher has accorded the quality of book production deserved, and the striking dust jacket, taken from a painting in oils by Deborah Jones, will help immeasurably in combating the taint of cheapness and sensationalism which is slowly throttling the growth of good science fiction in this country. The field must have lost many new devotees because of inferior quality magazines and pocket novels, comic strips and poorly produced books.

It is unfortunate that veteran author Jack Williamson comes off second best with his novel **Dragon's Island** (Museum Press, 9/6). I have viewed his development with much respect and admiration. Very few science-fiction authors can have survived the changing scene from the early pulp magazines, and kept abreast of the times in terms of scientific knowledge and maturity of style. However, this present novel is not much more than an unpretentious scientific thriller—at times melodramatic and somewhat overwritten—dealing with the

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adventures of a young research geneticist caught up in the battle between a secret organisation devoted to stamping the supposed menace from synthetic mutants, and Cadmus Inc., a powerful corporation making fortunes from mutant plants. Evidence is produced to support a strange story of a warped-superior race threatening to supercede mankind. The trail leads to the Cadmus plantation in New Guinea—the dragon-shaped island—where the denouement takes place. The miracles of genemutancy tend to become boring, particularly the tree which can grow a full-sized workable spaceship, but nevertheless interest is sustained right to the exciting ending.

The last two British Books this month are short story collections by popular authors—again poles apart, but this time only in theme. The name of Robert Heinlein is now recognized on both sides of the Atlantic as the hall-mark of excellent science-fiction, and in **The Green Hills Of Earth** (Sidgwick & Jackson 9/6)—the second in the famous Future History series—the master does not disappoint. Seven stories depict life in the 21st Century, from woman-trouble on a space station project—*Delilah and the Space Rigger*—to a married couple who get home-sick for the Moon—*It's Great to be Back.* And in others like *The Long Watch*—a story of moving heroism in space—and the problems of colonial development on Venus in *Logic of Empire*, the almost homely realism of Heinlein's writing leaves a deep sense of wonder and satisfaction. Luckily there's more to come.

John Wyndham's **Jizzle** is strictly fantasy, but the widespread public who enjoyed his earlier novels *The Day of the Triffids* and *The Kraken Wakes* (either as a book, magazine serial or radio play) will be delighted at this other facet of Wyndham's fertile imagination. The similarity of style to John Collier is striking, and although to my mind lacking Collier's unique deviltry of invention, this new collection of short stories shows a very satisfying capacity for sly humour, fantastic treatment of familiar situations, and occasionally a terrifying touch of the macabre (such as in *More Spinned Against*). Here are fifteen perfect examples of the art of short-story telling, providing a kaleidoscope of wonderment and laughter, puzzlement and horror. It is not science-fiction, but you simply must read this book.

In a totally different category is **Speeding Into Space** (Max Parrish, 6/-), a magnificent colour book for children which deals in picture and simplified story form with the possibilities of space flight. Written by Marie Neurath the book is ultra-modernistic in design, and can be readily understood by children who are just beginning to read well. Technical accuracy has been checked by Kenneth W. Gatland of the British Interplanetary Society and I thoroughly recommend it to all science-fiction readers for their children as *the* Primer of Space Flight.

Leslie Flood.

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